



Time To Know

Achieving Breakthrough Results

Using the TOC methodology in T2K

Liad Eshkar

Manager, Project Management and Business Processes

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Agenda

- Why TOC?
- Quantitative Results
- Applying the 5 focusing steps
 - Applying the 5 focusing steps at the organizational level
 - Applying the 5 focusing steps in the content department
 - Applying the 5 focusing steps in the R&D department
- Results & Achievements Summary
- Necessary Conditions for Success

Why TOC?

- We were looking to achieve breakthrough results (>25%)
- We understand that it isn't a matter of a tool implementation but a management paradigm shift
- Proven results and good references
- We were looking to achieve **breakthrough results** within **short time** (3-4 month)



Quantitative Results



Quantitative Results – Content*

Measurement	Before TOC (S1)	After TOC (S2)	% Improvement
Project Duration	<ul style="list-style-type: none">72 days300 lessons (NY)	<ul style="list-style-type: none">56 days350 Lessons (NY + Texas)	33%
Throughput	<ul style="list-style-type: none">Lessons per day: 4	<ul style="list-style-type: none">Lessons per day: 6	50%
Average Lesson's Cycle Time	<ul style="list-style-type: none">30 days	<ul style="list-style-type: none">15 days	50%

- The results were achieved in the first 3 month of the TOC implementation
- **ROI were achieved in less then 3 month (including software)**

Quantitative Results – R&D

Measurement	Before TOC (CGE 2.5)	After TOC (CGE 2.5)	% Improvement
Project Duration	52 days	34 days	33%

- Similar reduction in budget
- Quality improved
- All promised scope delivered

TOC Implementation in the R&D is still in progress



Applying the 5 focusing steps



TOC 5 Focusing Steps

Step 0 – Define the **System Goal**

1. **Identify** the constraint
2. **Exploit** the constraint
3. **Subordinate** everything else to the above decision
4. **Elevate** the constraint
5. If the constraint has moved – **go to step 1**:
prevent inertia becoming the constraint

Applying the 5 Focusing Steps Organization Level

Identify

- **Content** as the constraint

Exploit

- TOC implementation **starts in Content**
- **Adjust the plan to the constraint capacity** – Stop developing 3rd grade to leave enough time for 4th and 5th grade upgrades
- **Stagger projects** – Postpone working on projects of lower priority (Texas)

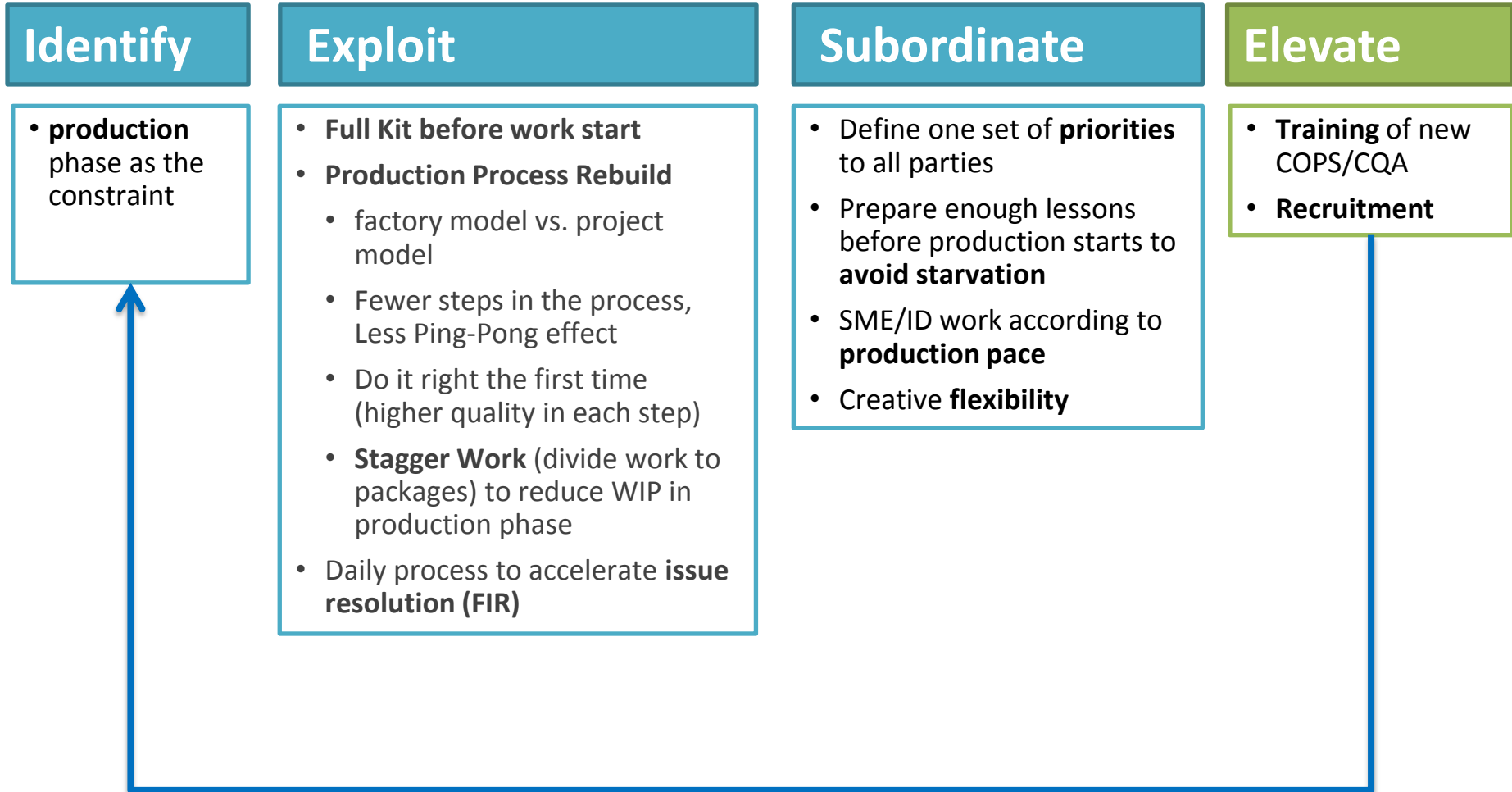
Subordinate

- **Adjust other departments' plans** to enable more time for the Content plan
- Plan for other departments to **deliver earlier**
- Define **1 set of priorities**

Elevate

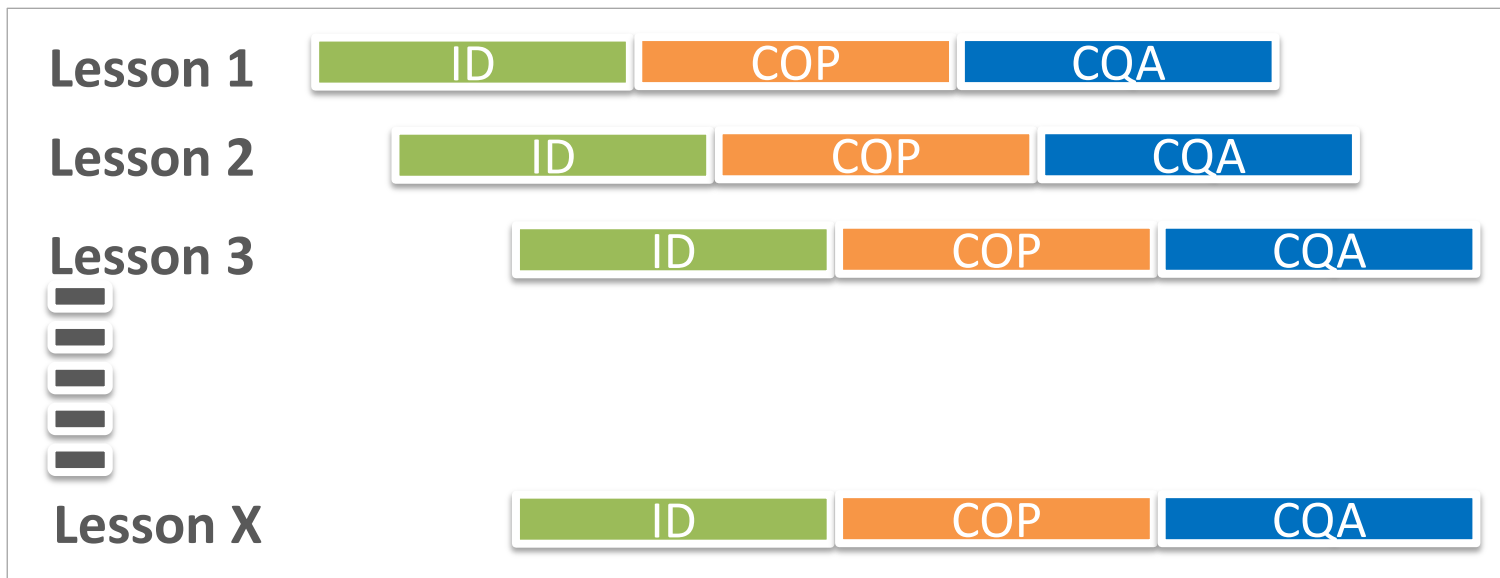
- Content works with **several partners** worldwide
- **Training and recruiting**

Applying the 5 Focusing Steps Content

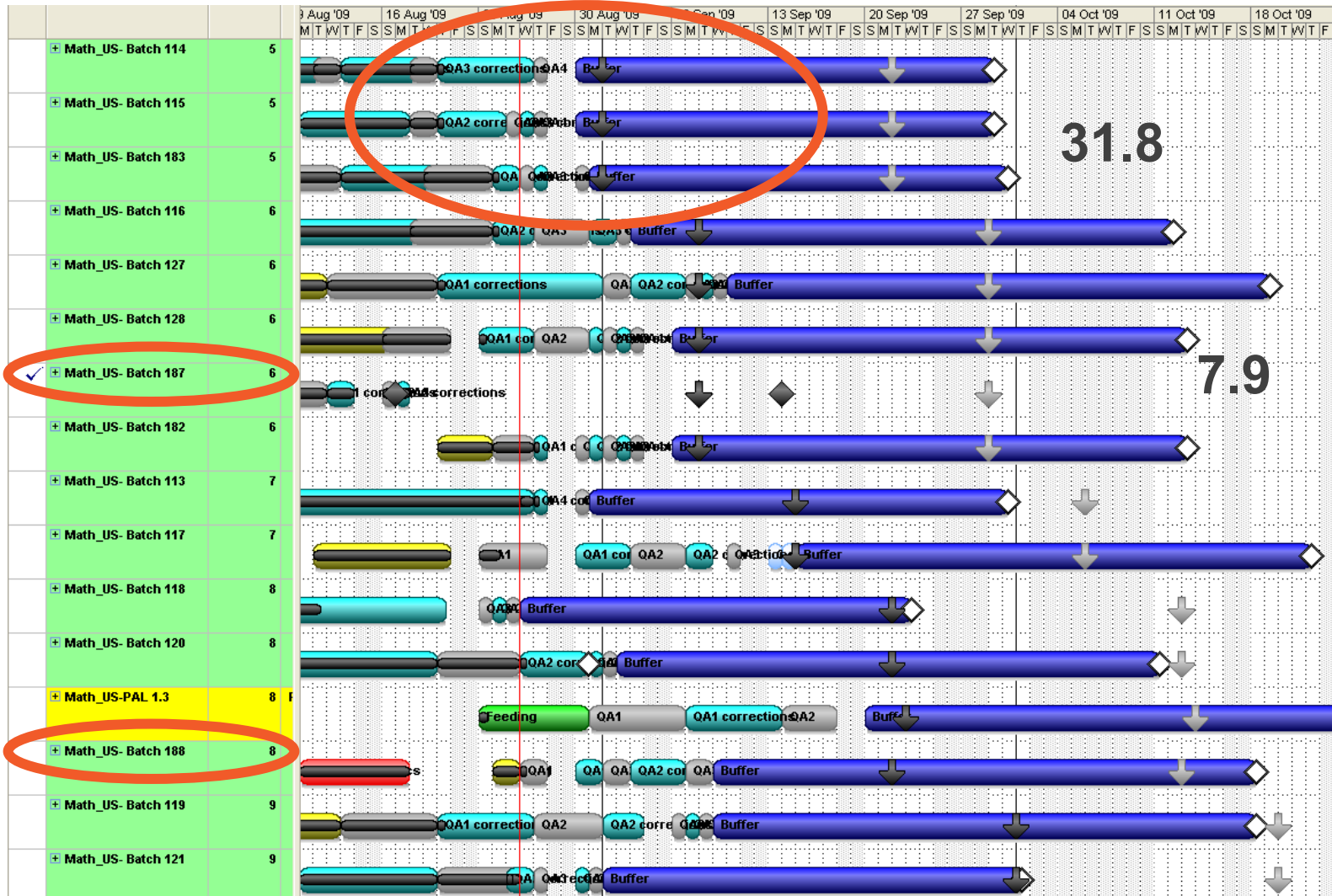


Lesson Manufacturing Process Before TOC

- MS Project Server 2010 used for managing
- Lesson = independent project
- PMO as the only work plan owner
- Managers were unable to see clear high level status

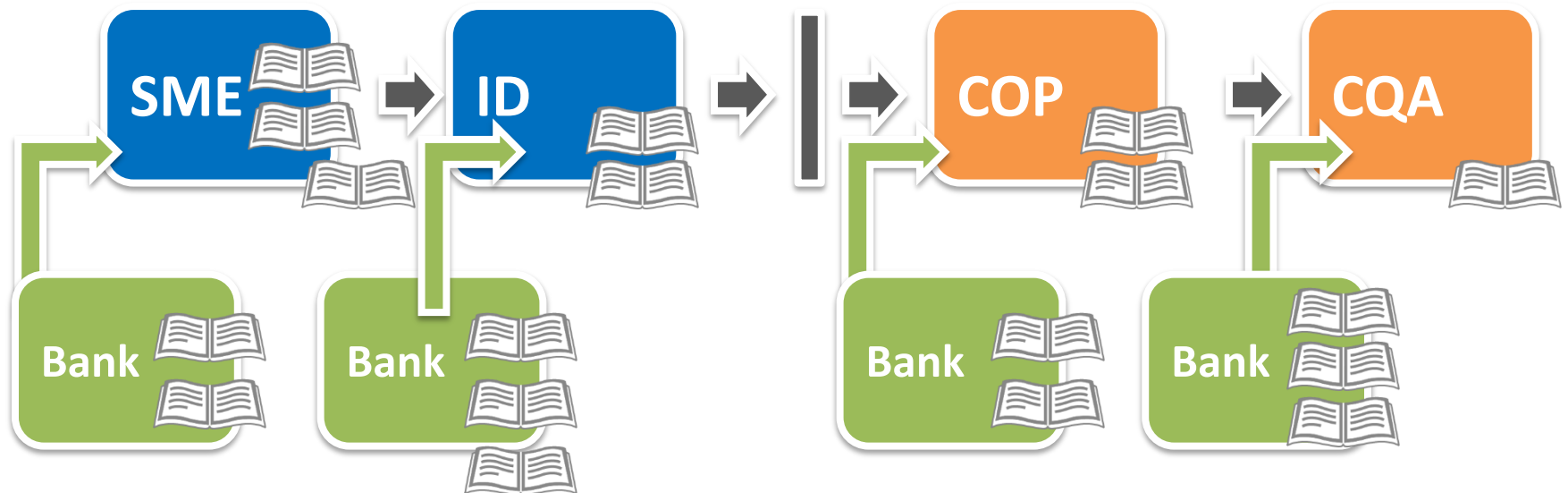


Example from a weekly status meeting



Lesson Manufacturing Process After TOC

- Stations management
- Throughput planning and tracking
- Bottleneck identification - Offload work from COP
- Limit the number of lessons in production by separating the project into parts



Content Results & Achievements

- **High level of readiness** of content before school year started
- The project ended **ahead of schedule**, with less budget and on scope & quality
- **Project status** is visible to everyone and managers can take operational responsibility for delivery
- **Project plan** is viewed daily allowing the managers to take decisions and solve problems
- **Smooth work flow** for handovers between stations
- Work is **balanced**, no peaks before deadline
- **Improved communication** with marketing and US implementation
- **Best practice and efficient content development** methodology that can be used by partners

Content results

Quotes

Before

“We’ve just finished another long implementation process of EPM 2010. **Why should we start another one?**”

“All of our processes are well defined. **We don’t need to improve them.**”

“**We don’t have time** to participate in so many meetings.”

After

- “The process just **drives itself.**”
- “Finally, **managers can actually manage** their teams operatively.”
- “This is the first time that we don’t need to come in weekends and stay until midnight **before deadlines.**”

Applying the 5 Focusing Steps R&D

Identify

- The **Critical Chain (CC)**

Exploit

- **Low WIP** – Avoid Multitasking
- **Global Buffer** – Move local safeties from each task to a global buffer (to be consumed) and allow tasks to be late against plan
- **Buffer Management** – Manage the longest chain at each moment

Subordinate

- **Feeding Buffers** Verify that the critical chain will be safe and not interrupted by other chains

Elevate

- **Shortened** the CC duration
- **Add** resources

Versions WIP

Before TOC

Tasks	Q2		Q3			Q4		
	Nov	Dec	JAN	FEB	MAR	APR	MAY	JUN
2.5	QA							
2.5 SP1	TBD (95 DEV days)							
2.6	DEV CGE		QA					
Fraction Editor	DEV CGE	QA						
SSE	TBD							

After TOC

Tasks	Q2		Q3			Q4		
	Nov	Dec	JAN	FEB	MAR	APR	MAY	JUN
2.5 + SP1	DEV	QA						
2.6			DEV	QA				

R&D Qualitative Results

- **One language, one priority for all**
- **Transparency** – Monitor how many delayed days at each point in time and what is required to accelerate
- **Integrative Project** plan and management
- Improved **QA efficiency** by defining a clear **quality gate** for acceptance
- A standardized **management method** and **working procedures**
- Improved **synchronization** and **communication**
- **Developing only the agreed scope** allowing stable QA period

CGE 2.5 results

Quotes

Before

- “We will **never be able to stand behind this timeline**, you are too optimistic.”
- You’ll see, we are going to **have critical bugs until the last day**. This is what always happens....”
- We can’t shortened the time more without affecting the quality.

After

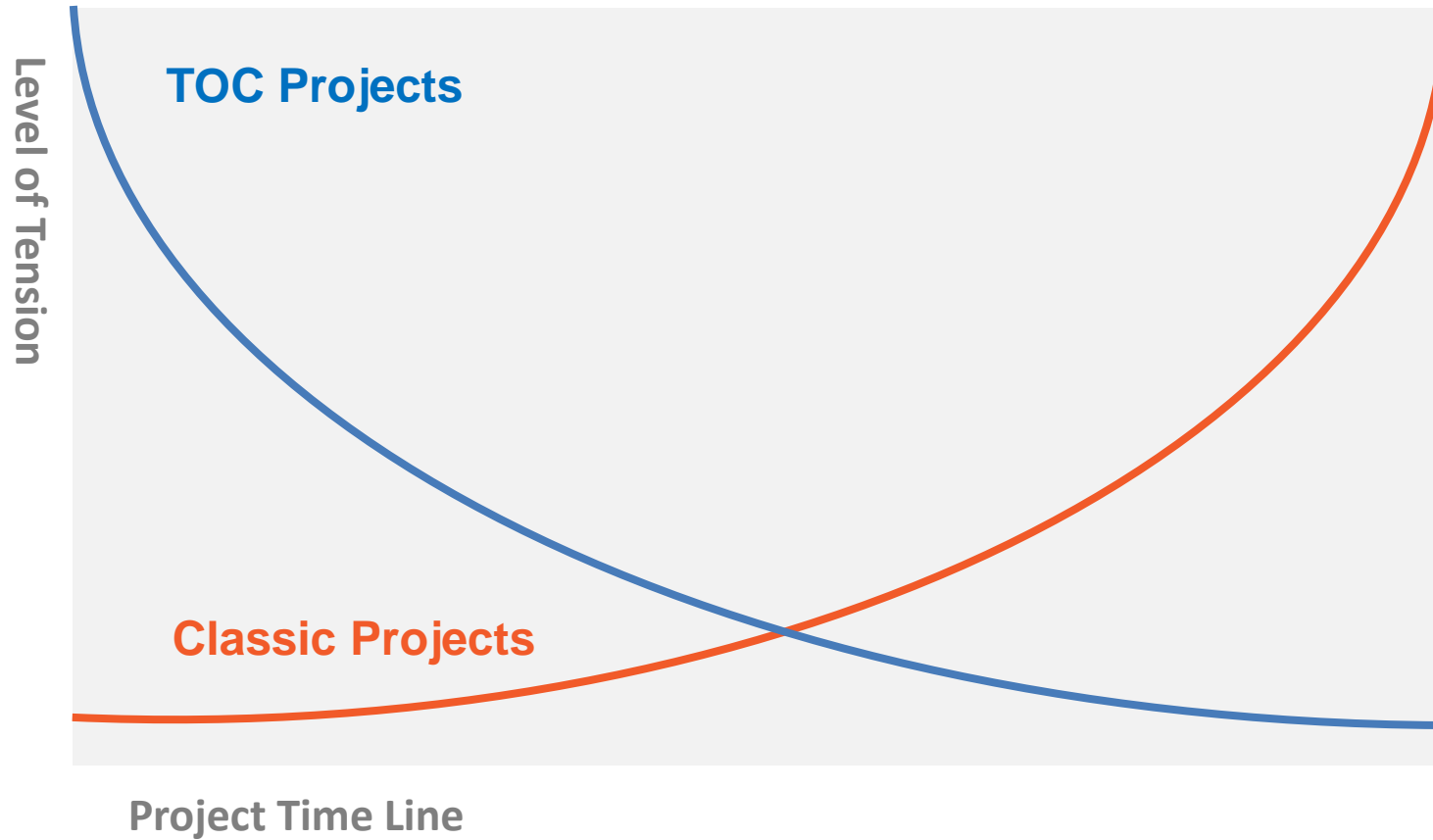
- “This is the **first time** that they actually fixing bugs.”
- “ I have a new **set of management tools** that work, allowing the managers to manage.”
- “It is amazing that we are calm a week before the due date, we have always had to **deliver builds until the last day.**”



Results & Achievements Summary



TOC-Based Project Affects Tension Level!



Results & Achievements Summary

- Return on investment achieved in **less than 3 months**
- Overall **33%** project duration reduction, **50%** throughput improvement
- **Integrated plan** per market with common target
- **Planning backward** – starting from the Customer Readiness
- Integrated **risk mitigation** plan and execution
- **Daily management** and **issue resolution** of items on the **critical chain**
- **Shared targets & priorities** between all parties



Necessary Conditions for Success



Necessary Conditions for Success

- A clean **need** for a major improvement that is tied to the business results
- Management **leadership**
- **Strong internal core team** which can execute change management
- **Strong partner** with vast experience and proven results in TOC implementations
 - **“Computerized Business Solutions”**
(פתרונות עסקיים ממוחשבים - CBS)
 - **CBS** has successfully implemented TOC in Amdocs, IDF-Intelligence, Verint, Israeli Air-Force...
 - **Can assist us to achieve breakthrough results in a short time**



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