"Boring" issues the in most inventory management implementations

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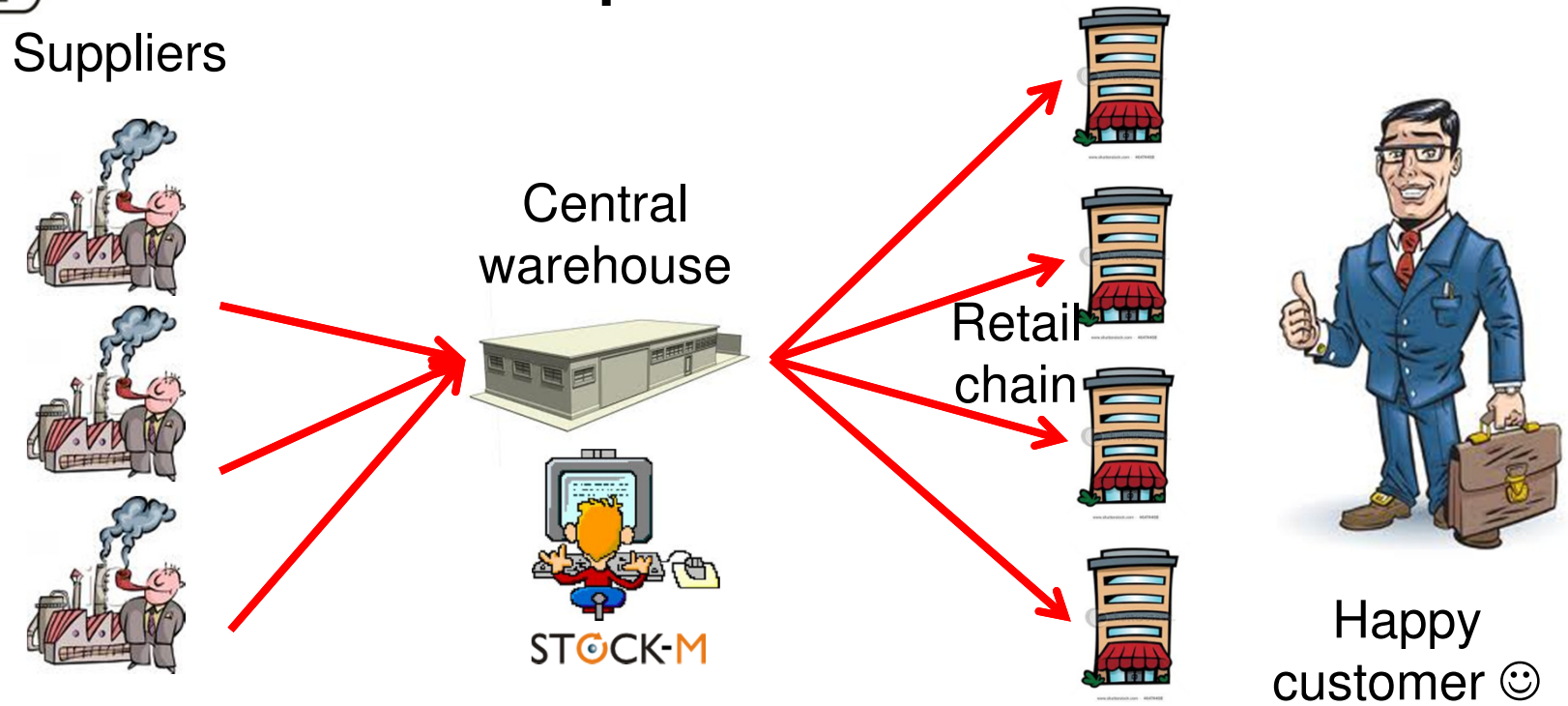
Case #1
Where to start implementation from?



… at Central Warehouse or in shops?
-CW – easier, closer, less amount of SKUs etc.
-Shops, because they give you chaotic flow from CW

Case #2
Choosing the "right" supplier

- The same SKU could be supplied from few different suppliers.
- How to choose where to buy if conditions are similar?
  - Simple logic: check all and buy at lowest price.
- Would you do the same way?
- But look what the supplier sees:
  - Customer buys irregularly. Sometimes he buys, sometimes he doesn't;
  - Every time he asks and stress you for lower price;
  - It doesn't matter what conditions you give, next time he will start all over again or won't come at all;
- Would you cherish such a customer?

- What we recommend to customers:
  - There are two “kinds” of suppliers. The cheap and the fast ones.
  - Agree with cheap supplier and buy regularly.
  - In emergency cases buy from fast supplier.

- What customers like to say:
  - It is impossible, supplier will cheat;
  - I am very small customer and supplier won’t talk to me.

- Only in rare cases such customer initiates meeting and starts discussion with supplier.

TLBB – supplies electronics from Far East

- TLBB buys electronic devices from China. Those devices are quite expensive and have a relatively short shelf life.
- We had many meetings and spent long time discussing about importance to shorten order lead time.
- As the devices are expensive and small, TLBB delivers them by plane.
- Transportation costs increase devices price up to ~30%.
- The actual lead time from order placement until it can be sold in Russia takes more than 50 days(!).

TLBB order procedure

- TLBB manager asks two forwarders for price and delivery time;
- Forwarders answer in 3 days;
- TLBB chooses better offer and confirms it in 1 day. At the same time he tells manufacturer to prepare order for pick up;
- Manufacturer prepares an order in 2 days;
- Forwarder picks up the order in 3-5 days after confirmation was received;
- Forwarder delivers order to plane in 1-2 days;
- Planes take off for departures in 1-2 days;
- <…>
  - The time from order was placed till plane takes off is 10-13 days:
  - **Final order lead time to Russia 50 days;**
  - **Final order lead time to Lithuania 35 days.**

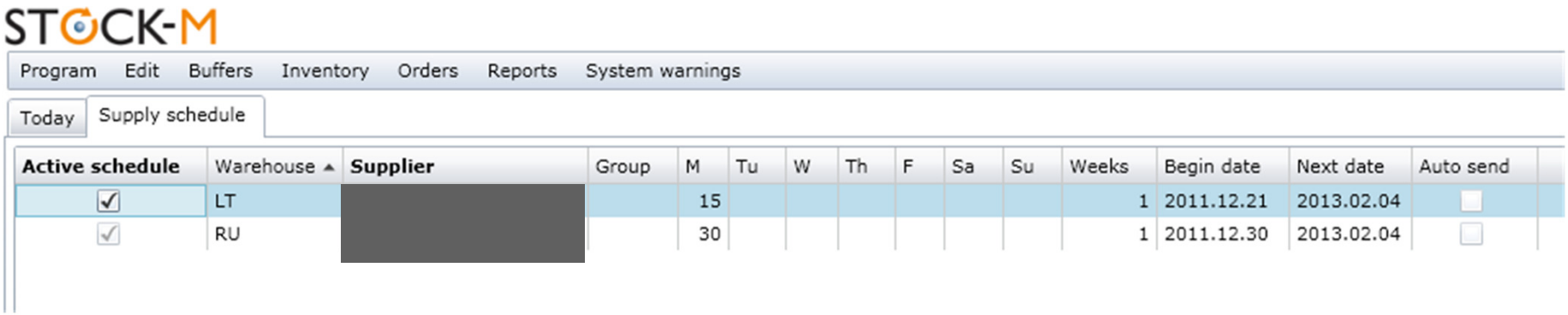
Meeting with forwarder

- After short introduction almost the first words which forwarder said were:
- “If you give me your orders regularly, I could prepare and make them faster at the same price”.

- TLBB also improved other things: established CW, refused forecasting etc.

TLBB order procedure now

- StockM creates an order on Monday;
- Manufacturer prepares order on Tuesday;
- Forwarder knows the order will be ready on Tuesday and picks it up on the same day;
- Monday is chosen according to plane schedule, so plane with order takes off on Thursday…
  - Now the time from order was placed untill plane takes off is 3 days:
  - **Final order lead time to Russia 30 days.**
  - **Final order lead time to Lithuania 15 days.**



Active schedule	Warehouse	Supplier	Group	M	Tu	W	Th	F	Sa	Su	Weeks	Begin date	Next date	Auto send
✓	LT	[redacted]		15							1	2011.12.21	2013.02.04	
✓	RU	[redacted]		30							1	2011.12.30	2013.02.04	

Case #3
Some orders optimization issues

This simplified formula is used to calculate usual SKU order amount:

Order_amount = Buffer – Qnty_Stock – Qnty_transit

- In real life most SKUs have Minimal Order Quantity (MOQ) which depends on package size, transportation size (pallet) etc.
  - Of course we should strive to break all those limits, but not all suppliers are familiar with TOC;
- Hence calculated order amount must be rounded to MOQ.
  - This is still Ok. Usually it doesn't affect final result that much.

- But often we have cases, when transportation batch makes a full truck or even sea container.
- If transportation costs take significant part of final SKU price we have to change order to fulfill a truck:
  - When order is bigger than a truck, we simply cut those SKUs which are very “green” (minimal penetration to buffer);
  - When the order is less than a truck, we have to add quantities which are not needed, but… we hope we’ll sell them fast;
  - To do so we built Optimization feature and added “load threshold” value in StockM. When value is reached system increases order to fulfill a truck or container.
- We only recommended to managers to set threshold to 60-70% of truck load.

And…
after some time we noticed inventory growth ☹.

1		Weight	Weight	Pallets	Pallets
2	Name	Treshhol	Full load	Treshhol	Full load
5	AGROS-NOVA SP. Z.O.O.	1	23400	10	30
6	AO PO KONTI	12000	19600		
7	AOZT Charkovskaja biskvitnaja fabrika	40000	50000		
10	BODEGAS ISIDRO MILAGRO, S.A	3000	23300	5	32
16	CHEVAL QUANCARD SA	3000	23300	5	32
17	CIELO e TERRA S.p.A.	3000	23300	5	32
19	COMPANIA EUROPEA EXPORTADORA DE VINOS, S.L.	1000	23300	5	32
20	DISTILLEERDERIJ 2002 N.V.	5000	23400	7	32
24	Einig-Zenzen GmbH & Co. KG	3000	23500	5	32
27	EUROCOM S.r.l	5000	21204		
29	FAUCONNIER	3000	23300	5	32
30	FELIX SOLIS	3000	23300	5	32
32	GARNUM TRANSPORT & SPEDITION	1000	19600	5	32
34	GEROLSTEINER BRUNNEN GmbH	1	23400	5	30
35	GIACOMO SPERONE I.VI.S. S.P.A.	1000	23500	5	32
39	GROSSKELTEREI ROTHA GMBH	1	23400	15	30
40	GROUPE UCCOAR	3000	23300	5	32
42	GUANGDONG SILIQUE INTERNATIONAL GROUP GOLDSILK	10000	16500		
44	HANSA-HEEMANN AG	1	23400	20	30
45	HERBAPOL-Lublin S.A.	1	23400	5	30
46	I.I. SADRO-URSU	6000	20000		

- This was hard lesson for us:
  - “Never believe, always check”.
- Later on we added one more system setting which allows project manager to limit minimal threshold.

Optimization for transport

	Svoris, kg		Kiekis pal.	
	Threshold	Full	Threshold	Full
Transport 1			57	64
Transport 2			45	50
Transport 3			27	36
Transport 4			15	20

Split order for each transport

Case #4
System stability indicator

That happened spontaneously.

On the second year of common work one customer asked us for advice:

“Giedrius, few weeks ago one of two purchasing managers quit his job unexpectedly. The second one will get married in a month and he is preparing for honeymoon trip to somewhere. What to do? There is too little time to hire and teach new manager”.

Few moments later she asked me again:

”You said that anyone can work with StockM under procedures we wrote together. If you are so sure, ask your project manager to replace my manager for one month during his honeymoon trip”.

It happened.

And nothing bad has been noted in results.

Now we like to say: “When StockM is implemented, we can replace your manager for some time. This is true sign indicating system stability and clarity”.

Case #5
painful belief in supplier's goodwill and mutual cooperation

- You are supplier of largest home appliances retail chain PCTT.
- PCTT gives all necessary sales data to its suppliers to achieve daily replenishment.
- You just need to ensure your goods' availability on PCTT shelves.
- PCTT trusts you and never buys neither substitutes nor your products from other suppliers.
- **Would you like to supply to PCTT?**
- **Do you agree, this is true win-win solution for both?**
- **Should PCTT expect minimal lost sales and no overstocks?**
- **Should PCTT check supplier's reliability when it gives such conditions?**

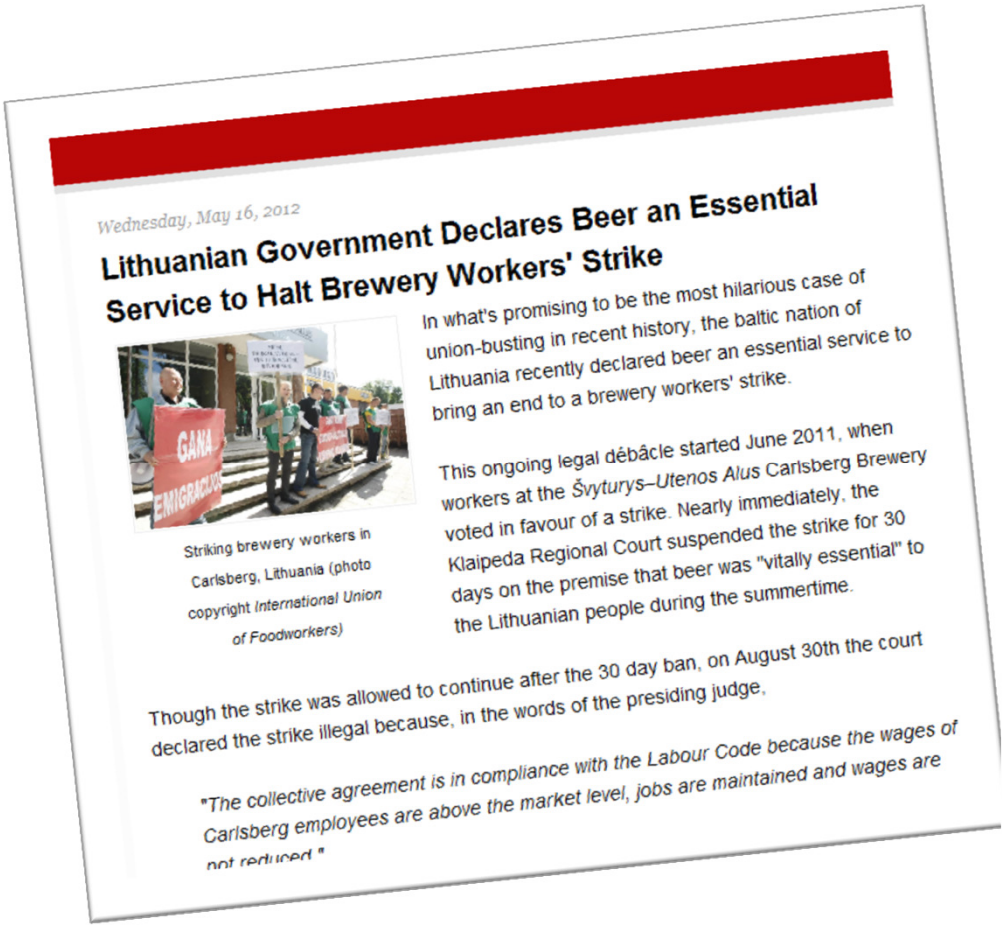
The PCTT reality we've found:

- 30% SKU are absent; ☹
- Almost half of suppliers tend to push bigger amounts than PCTT recommends;
- Almost half of suppliers send their orders less than once a week (PCTT expected daily replenishment!).

- **The main reason:**
  - **there was core difference in PCTT and supplier's understanding how to manage inventory;**
  - **Or in other words: PCTT moved from "push" to "pull", but not all the suppliers understood that and kept "pushing" their goods.**

Case #6
Supplier Workers' Strike

- You are grocery retail chain. Summer. Hot.
- Your beer supplier delivers the goods once in a week to each store.
- Midsummer. Demand is steady. Shops have stable buffers.
- From time to time articles appear in the media about the forthcoming supplier's staff strike ...



Wednesday, May 16, 2012

Lithuanian Government Declares Beer an Essential Service to Halt Brewery Workers' Strike

In what's promising to be the most hilarious case of union-busting in recent history, the baltic nation of Lithuania recently declared beer an essential service to bring an end to a brewery workers' strike.

Striking brewery workers in Carlsberg, Lithuania (photo copyright *International Union of Foodworkers*)

This ongoing legal débâcle started June 2011, when workers at the *Švyturys–Utenos Alus* Carlsberg Brewery voted in favour of a strike. Nearly immediately, the Klaipeda Regional Court suspended the strike for 30 days on the premise that beer was "vitally essential" to the Lithuanian people during the summertime.

Though the strike was allowed to continue after the 30 day ban, on August 30th the court declared the strike illegal because, in the words of the presiding judge,

"The collective agreement is in compliance with the Labour Code because the wages of Carlsberg employees are above the market level, jobs are maintained and wages are not reduced."

- One day you receive a message from supplier:
- "Place an urgent order. It is high probability we will be on Strike all next week."
  - Shops have not spacious warehouses;
  - There is no central warehouse – all orders from suppliers come directly to shops;
  - You have to order right amount. Not too much, not too little.

How to prepare if Strike happens?

•The supplier won't supply for one week;

•The order frequency will change from one week to two;

•So you need two times more beer than usual;

•Hence you should act like awaiting seasonal fluctuation or simple marketing campaign.

SOLUTION:

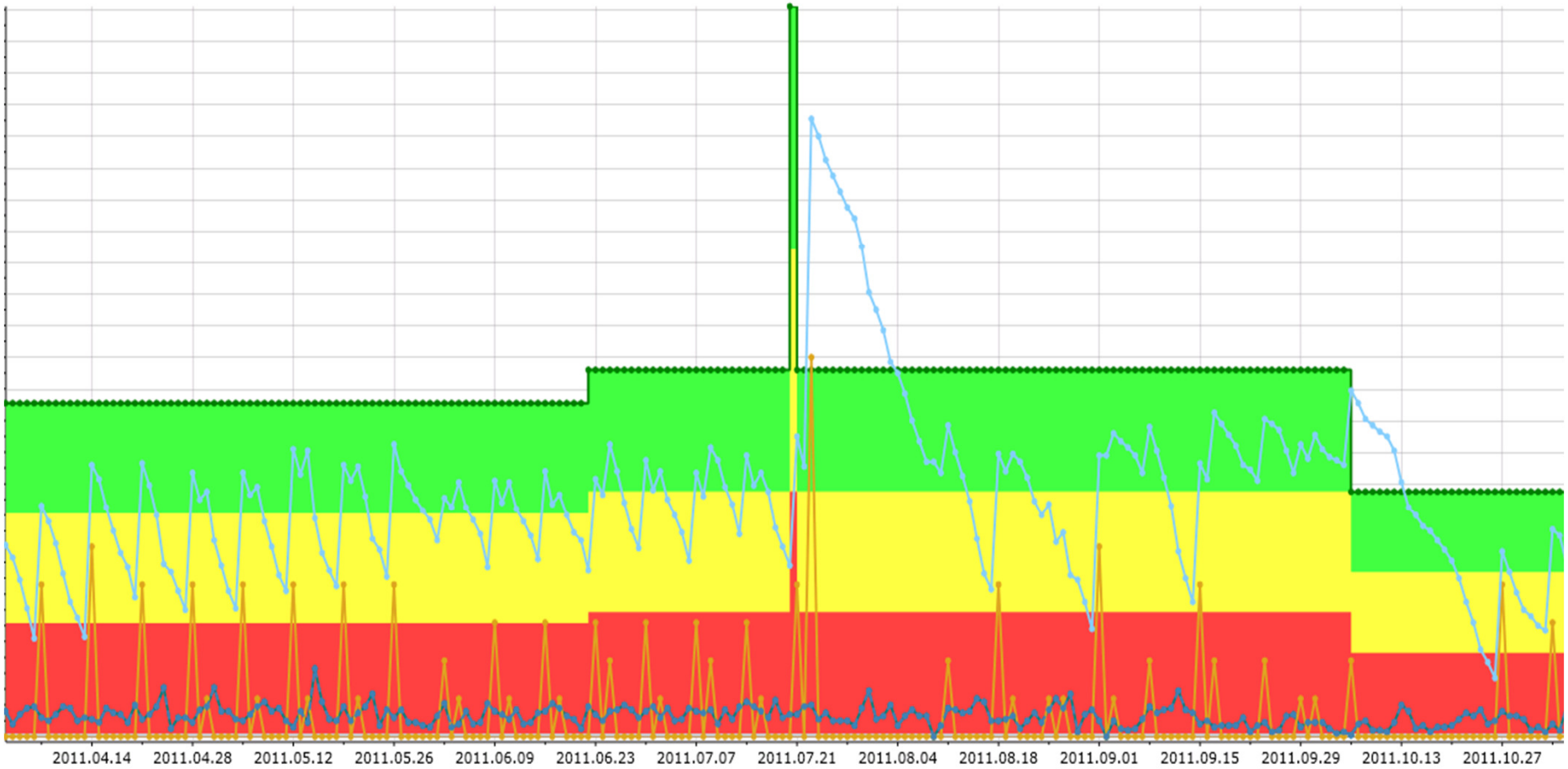
•Increase supplier's SKUs buffers by 2;

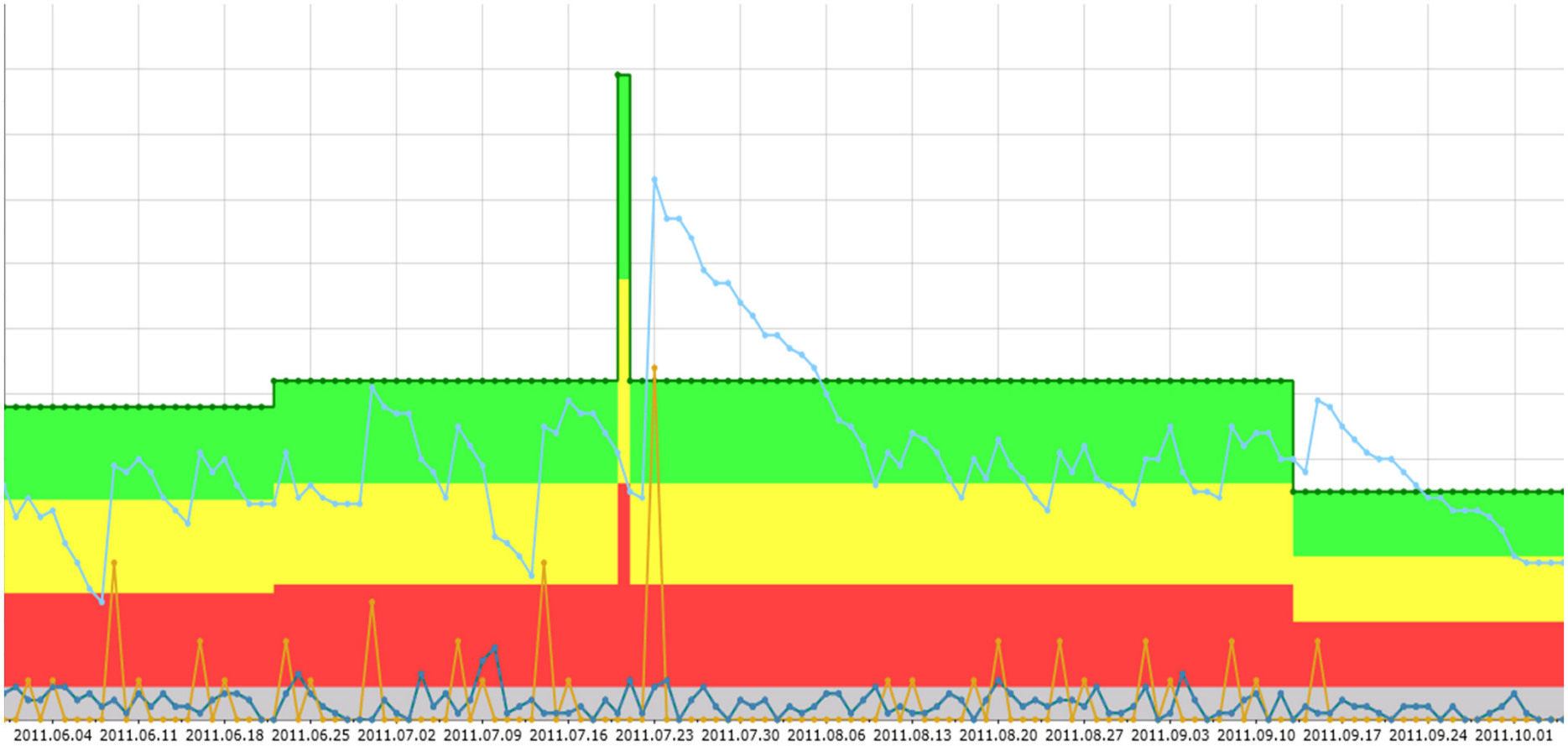
•Create and send order to suplier;

•Restore buffers.

Easy mathematics, but huge emotional pressure to manager ☺.

How it looked in StockM




2011.06.04
2011.06.11
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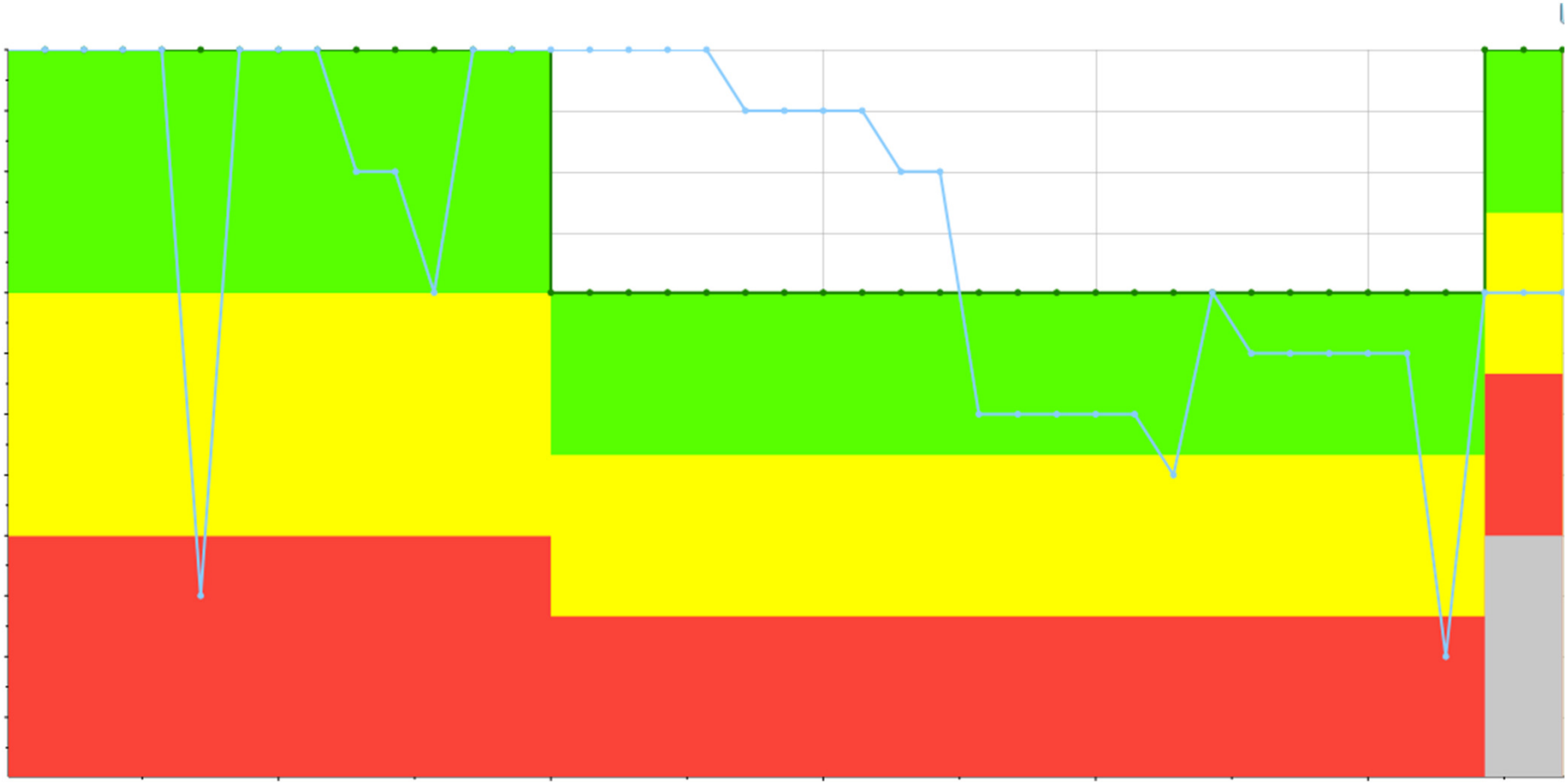
2011.08.06
2011.08.13
2011.08.20
2011.08.27
2011.09.03
2011.09.10
2011.09.17
2011.09.24
2011.10.01

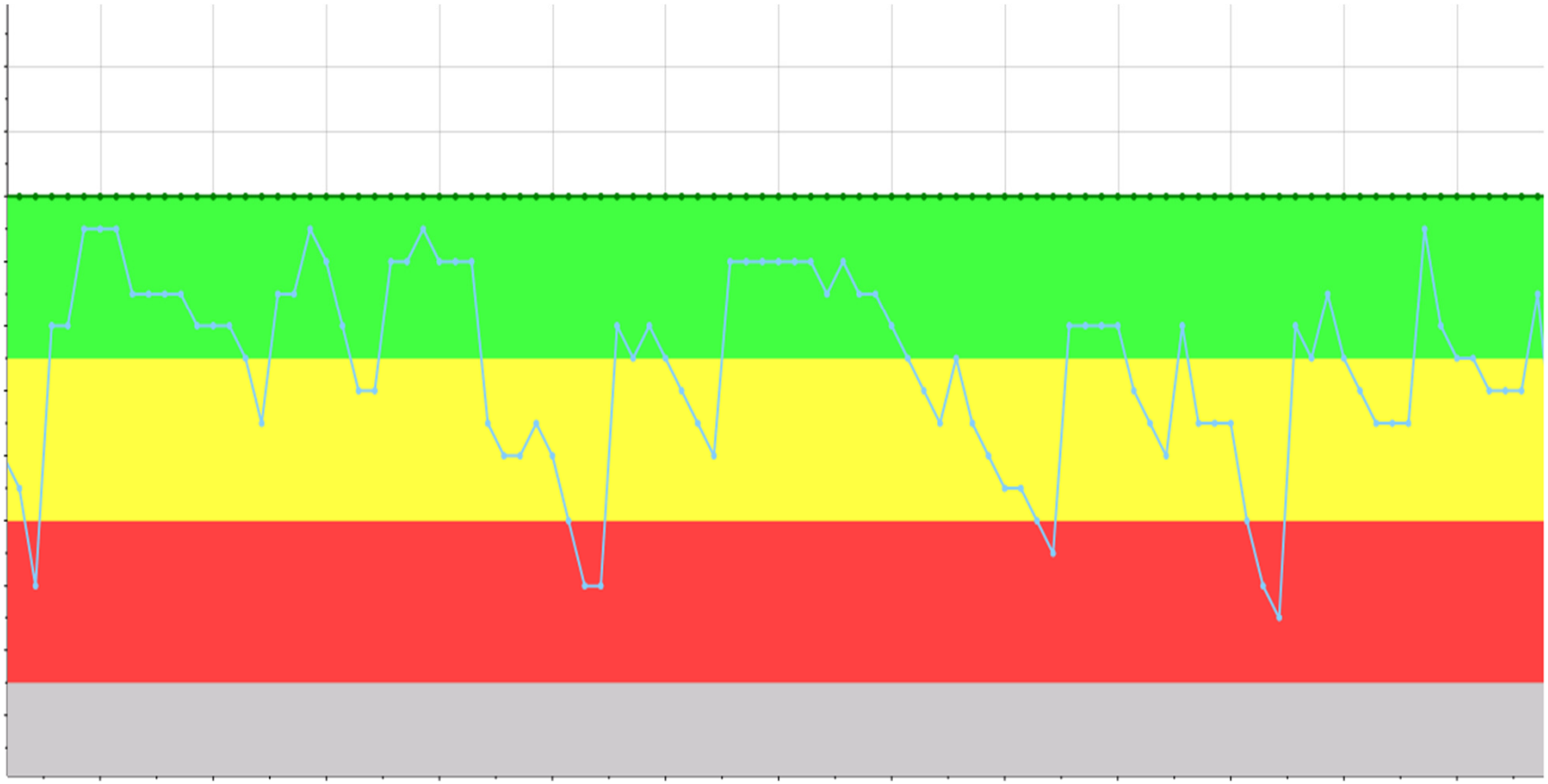
Case #7
Supplier forces to keep safety stock

- Supplier FBB “recommends” you to keep safe stock of his products. This way he wants to achieve higher availability;
- Based on a large area average sales, FBB regularly calculates exacts amounts for each SKU you have to keep and gives numbers to you;
- If you don’t keep this stock – you’ll lose FBB’s bonuses.
  - Bonuses make up to 70% of your throughput with FBB.
- You pay to FBB much later than goods are sold. But if they stuck in your wareouse – it is your problem.

We set FBB recommended amounts to StockM as safety buffers.



Quantities never dropped lower than amount we set



After reasonable period of time we met FBB again

- We showed to FBB the results for each SKU;
- FBB agreed, there is no further necessity to keep additional safety stock and let us ensure availability in TOC way;
- And we set Safety buffers to zero ☺.

THANK YOU!

Giedrius Balnys

Giedrius is a long standing TOC practitioner.

He graduate the Goldratt Schools TOC Application Explication Expert Program in 2006.

Giedrius is the developer of the StockM© inventory management system and has done many implementation of the software.

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