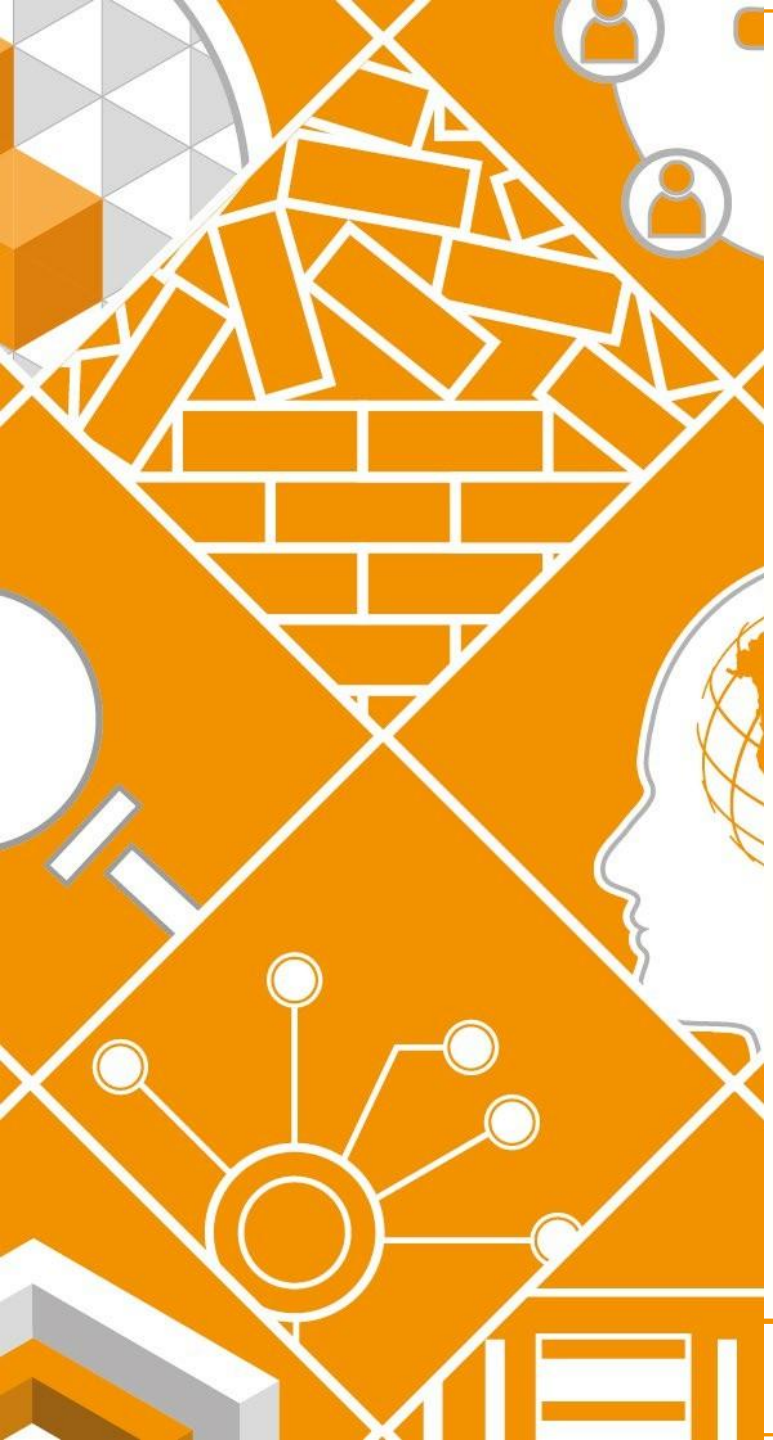

Introduction to
Optimizing Project Execution

SE-Training GmbH

Delivered by

Niels Malotaux

About SE-Training

Systems Engineering experts for the development and support of technically complex systems

Next INCOSE SEP Course:
Date: 12 – 15 May
Zürich

Working in Switzerland as a temporary worker?
https://www.tempservice.ch/

GfSE | INCOSE

SWISS MEDTECH Member

INCOSE UK ENDORSED TRAINING PROVIDER

EDUQUA

SE-TRAINING www.se-training.net

Classroom Course Highlights

Q2 2025

Course Name	Date	Location
Ensuring Aerospace System Qualification: Practical Insights into MIL-STD-810G/H Compliance	6 - 8 May plus 13 - 15 May 2025 - 6 half-days (4 hours each) -	Online
Technical Problem Solving	11 April 2025	Zurich
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Systems Reliability	14 - 15 May 2025	Zürich
Integration, Verification and Validation [IV&V] Practitioner	20 - 22 May 2025	Zürich
Design Thinking and Lean Innovation	03 - 04 June 2025	Zürich
Optimising Project Execution: Clear results - timely delivery	17 - 18 June 2025	Zürich

Conquering Complexity

Zürich Technopark | 27 May 2025

Effectively & efficiently conquering development & support of technically complex systems

Are you ready to tackle the challenges of interconnected products, emergent behaviour, and ever-changing Customer needs?

The one-day free to attend event focusses on addressing the major issue common to many industries. How to effectively and efficiently manage the ever-increasing complexity within the systems developed today and maintained for the future.

The event will include application-based workshops and keynote sessions on the critical strategies and methodologies for conquering complexity across most engineering domains.

VENUE INFORMATION

-Zürich Technopark-

Technoparkstrasse 1
8005 Zürich

Click here to see public transport options.

NEARBY ACCOMMODATION

-Novotel Zürich City West-

Schiffbaustrasse 13
Turbinenplatz
8005 Zurich

-Ibis Zürich City West-

Schiffbaustrasse 11
8005 Zürich

SE-Training Welcomes

Niels Malotaux

- Independent international Project Coach
- Expert in optimizing organizational, management, project, team performance

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- Some 45-year experience in designing electronic and software systems
- Since 1998 having coached some 400 teams in 14 countries,
  helping to deliver the Right Results at the Right Time
- Types of projects coached:
  electronics, firmware, software, space, road, rail, telecom, industrial control, parking system
- From time to time still developing electronic products for clients

Introduction to

Optimizing Project Execution

Optimising Project Execution: Clear results - timely delivery	17 - 18 June 2025	Zürich

www.malotaux.eu/conferences

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Niels Malotaux

+31-655 753 604 niels@malotaux.eu www.malotaux.eu

Successful projects ?

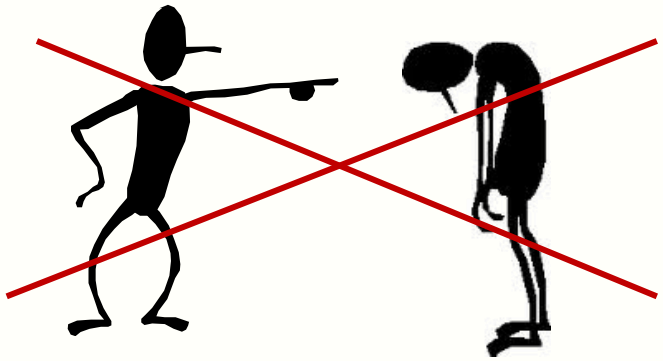
- You planned the project perfectly
- Created perfect requirements
- Delivered successfully on time

Right ?

- How about:
- *Optimizing* project execution
  - delivering as needed
  - delivering when needed
  - as efficiently as we can

Efficiency:
Effectiveness
in least Time

Isn’t that the Responsibility of the Project Manager ?



- The Project Manager may be *responsible* to deliver the right result at the right time
- The people doing the work *determine* the *result*, and the *time* it is delivered
- This makes everybody in the project implicitly *as responsible* as Project Management

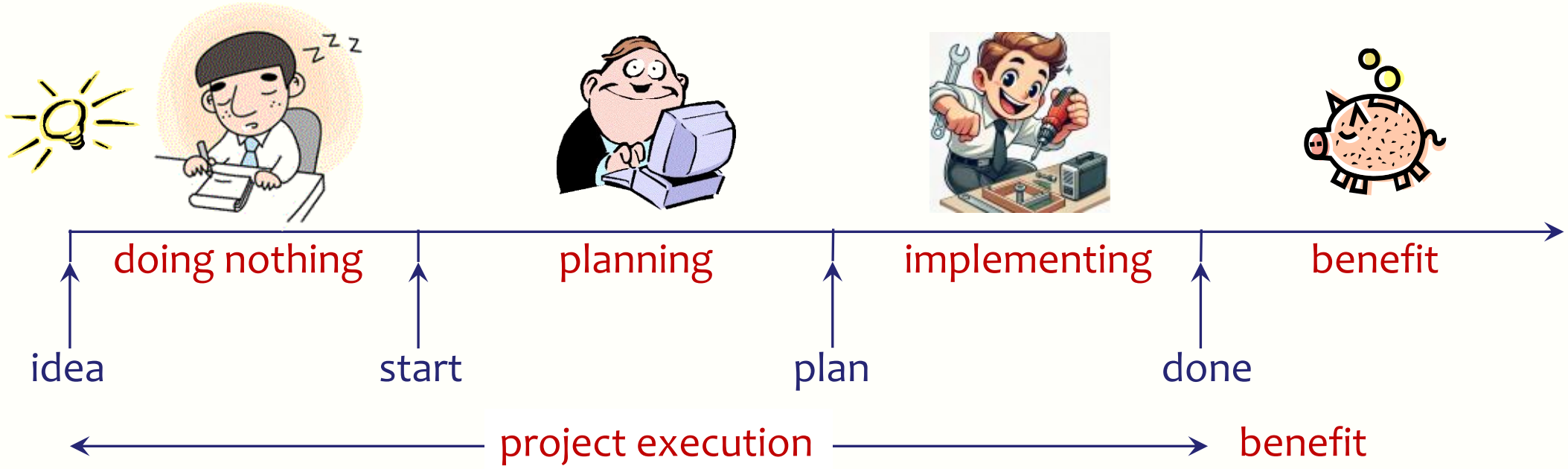
Ultimate Goal of a What We Do
(for our salary)

Quality on Time

- Delivering the Right Result at the Right Time, wasting as little time as possible (= efficiently)

- Providing the customer with
  - what they need
  - at the time they need it
  - to be satisfied
  - to be more successful than they were without it
- Constrained by (win - win)
  - what the customer can afford
  - what we mutually beneficially and satisfactorily can deliver
  - in a reasonable period of time

The Importance of Time



Return on Investment (ROI)

- \+ Benefit of doing - huge (otherwise we should do something else)
- – Cost of doing - usually minor compared with other costs
- – Cost of being late - lost benefit
- – Cost of doing nothing yet - every day we start later, we finish later

Do you know the cost of one day of (unnecessary) delay ?

- What is the cost of your project per day ?
- What is your cost per day ?
  Note: that's not what you get !
- If we don't know the benefit, assume 10 times the cost
- How can we make decisions, if we don't know ?

- Say 400 per day
- 5 people x 400 = 2000
- Cost of delay 10 x 2000 = 20 000

if 5x:

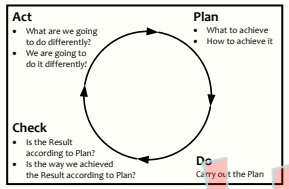
- Cost of delay 5 x 2000 = 10 000

Evolutionary Project Management elements (Evo)

www.malotaux.eu/processes

Tom Gilb

- Plan-Do-Check-Act
  - The powerful ingredient for success
- Business Case
  - *Why* we are going to improve *what*
- Requirements Engineering
  - *What* we are going to improve and *what not*
  - How much we will improve: *quantification*
- Architecture and Design
  - Selecting the *optimum compromise* for *the conflicting requirements*
- Early Review & Inspection
  - Measuring quality while doing, learning to prevent doing the wrong things



Why

What
How much
Are we done

How

Check and learn as early as possible

Zero Defects Attitude

Evo Project *Execution*

Niels

- Weekly TaskCycle
  - Short term planning
  - Optimizing estimation
  - Promising what we can achieve
  - Living up to our promises
- Bi-weekly DeliveryCycle
  - Optimizing the requirements and checking the assumptions
  - Soliciting feedback by delivering Real Results to *eagerly waiting Stakeholders*
- TimeLine
  - Getting and keeping control of Time: Predicting the future
  - Feeding program/portfolio/resource management

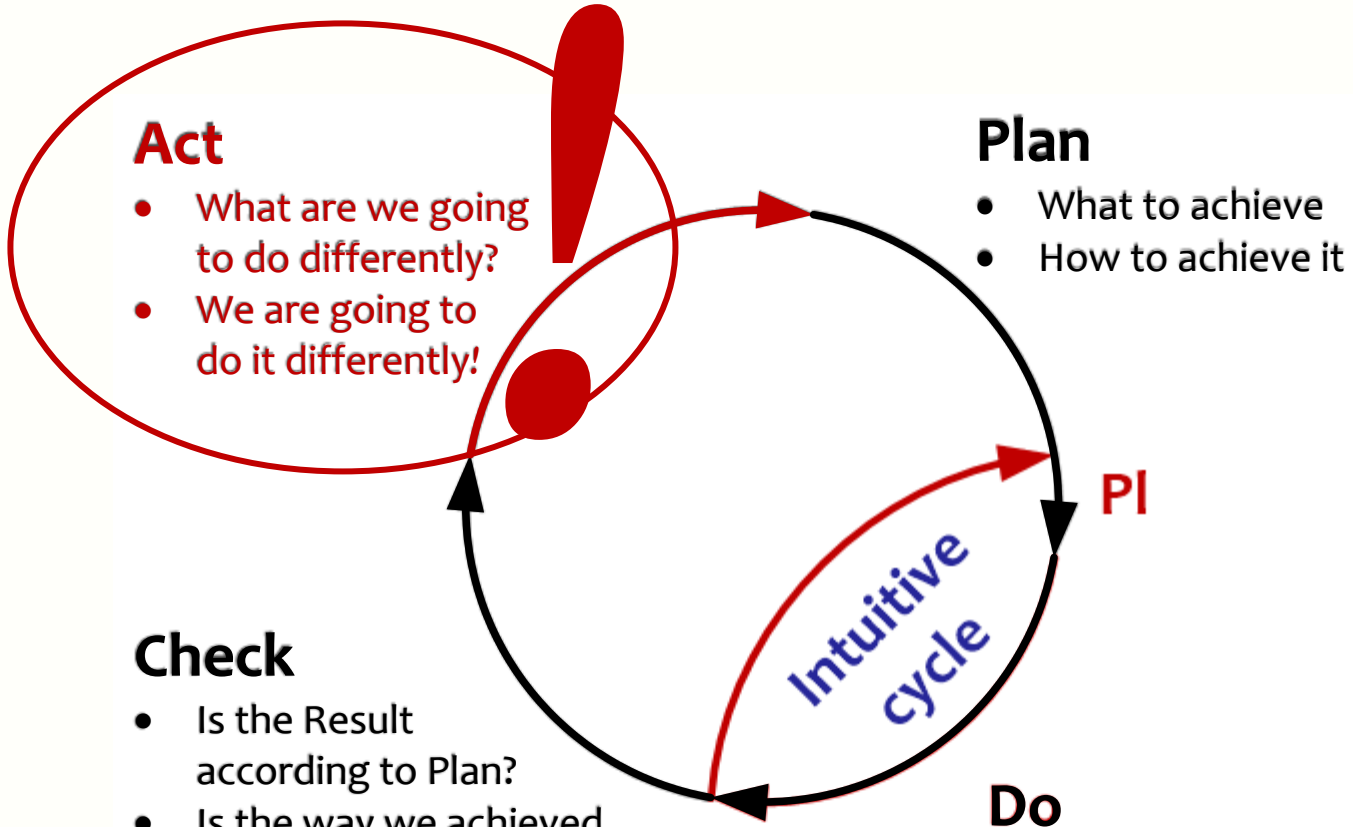
Efficiency of what we do

Effectiveness of what we do

What will happen, and what will we do about it ?

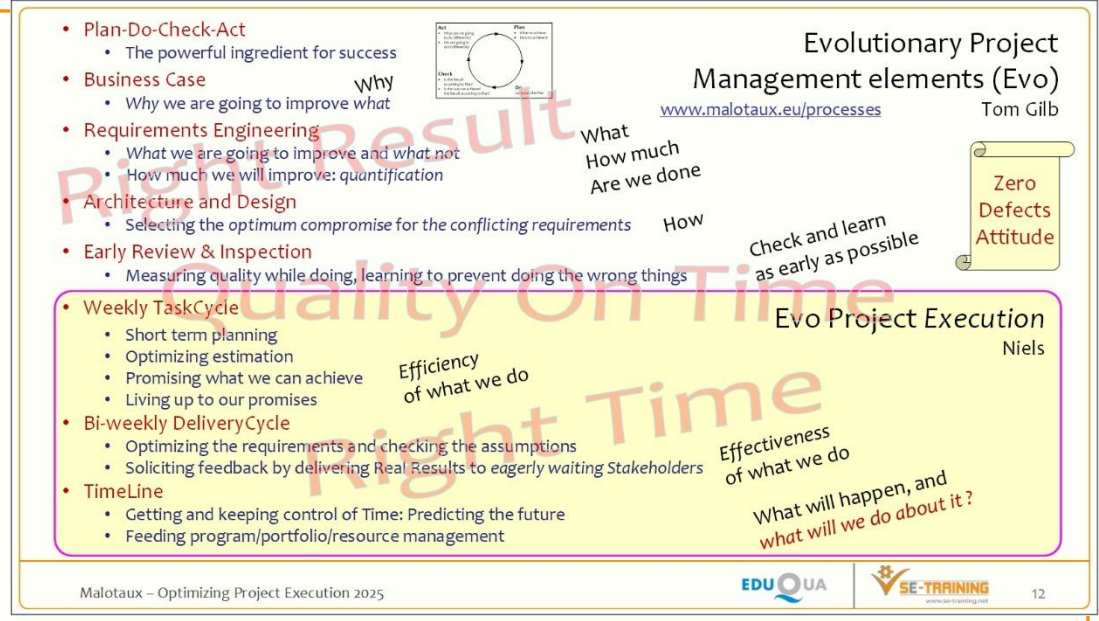
The essential ingredient: the PDCA Cycle

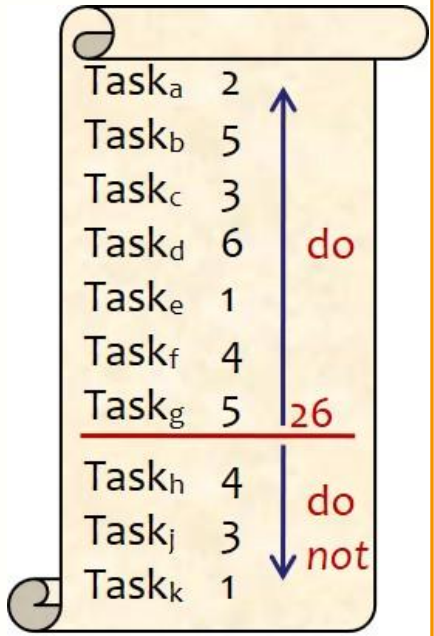
(Shewhart Cycle - Deming Cycle - Plan-Do-Study-Act Cycle - Kaizen)



Weekly TaskCycle

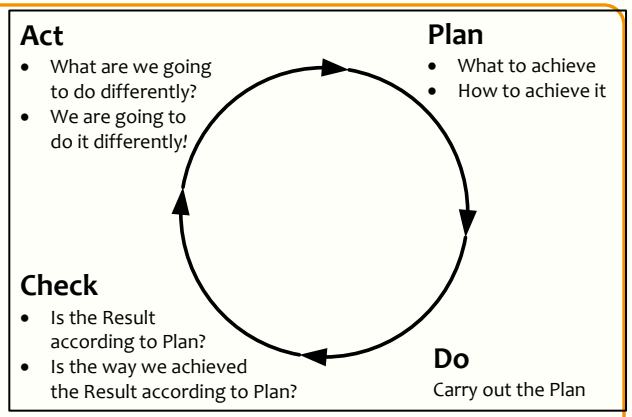
- What are we supposed to achieve
- How much time do we have available
- 2/3 of gross available time is net plannable time
- What is most important to do
  in order to achieve what we're supposed to achieve
- Estimate net effort needed to do these things
- Which most important things fit the net plannable time
  (default 2/3 of gross available time, 26 hr per week at 40hr work-week)
- What can, and what are we going to do
- What are we *not* going to do
- *Write it down ! Our fuzzy mind isn't good enough !*





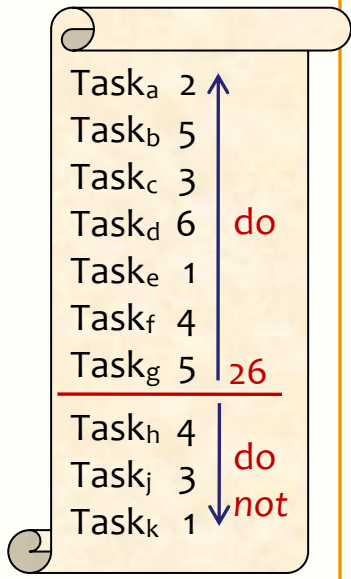
2/3 is default start value
this value works well with development work

Every week: reflecting and preflecting



- Was all planned work really done ?
- If a Task was not completed, we learn:
  - Time spent but needed more time ? → effort estimation problem
    - What did I think then, what do I know now → learn (Check and Act)
  - Time not spent? → time management problem
    - Too much distraction
    - Too much time spent on other (poorly-estimated) Tasks
    - Too much time spent on other things
- Close unfinished Tasks after having dealt with the consequences
  - Feed the disappointment of the "failure" into your intuition mechanism
  - Define remaining Tasks, and put on the Candidate Task List
  - Declare the Task finished after having taken the consequences
- Continue with planning the Tasks for the next week

Immediate consumption of metrics



'Innocent' questions for preflection

- Why would we do that ? (never use 'you')
- Who's waiting for that ?
- What do they need ?
- How much do they need ?
- When do they need it ?
- Is it really necessary ?
- Is it really necessary now ?
- How do we know ?
- Is this the best way to do it ?
- Does it fit the available time ?
- *What are we going to do about it ?*

People come in with their week plan,

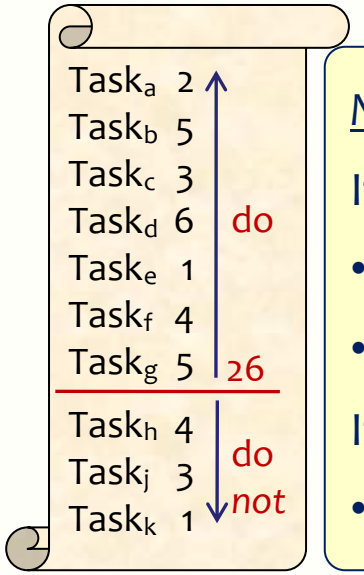
come out with a modified plan,

more going to work on the right things,

less spending time on unnecessary things.

Immediate savings.

From day one.



<u>*Never*</u> challenge an estimate !

If we don't understand the estimate, only say:

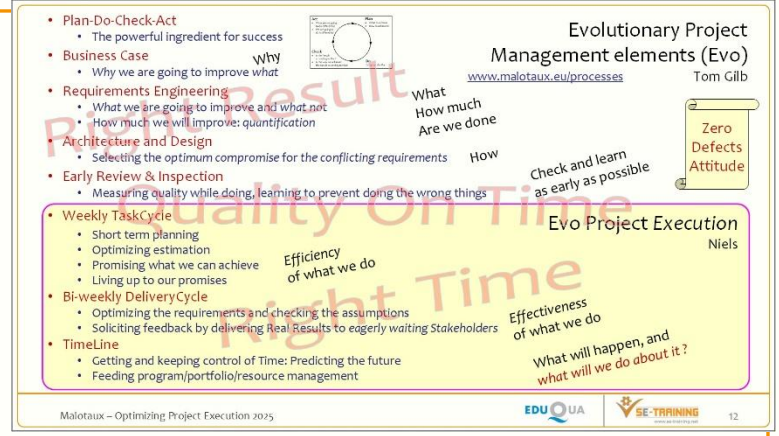
- What are you planning to do ?
- Now estimate again …

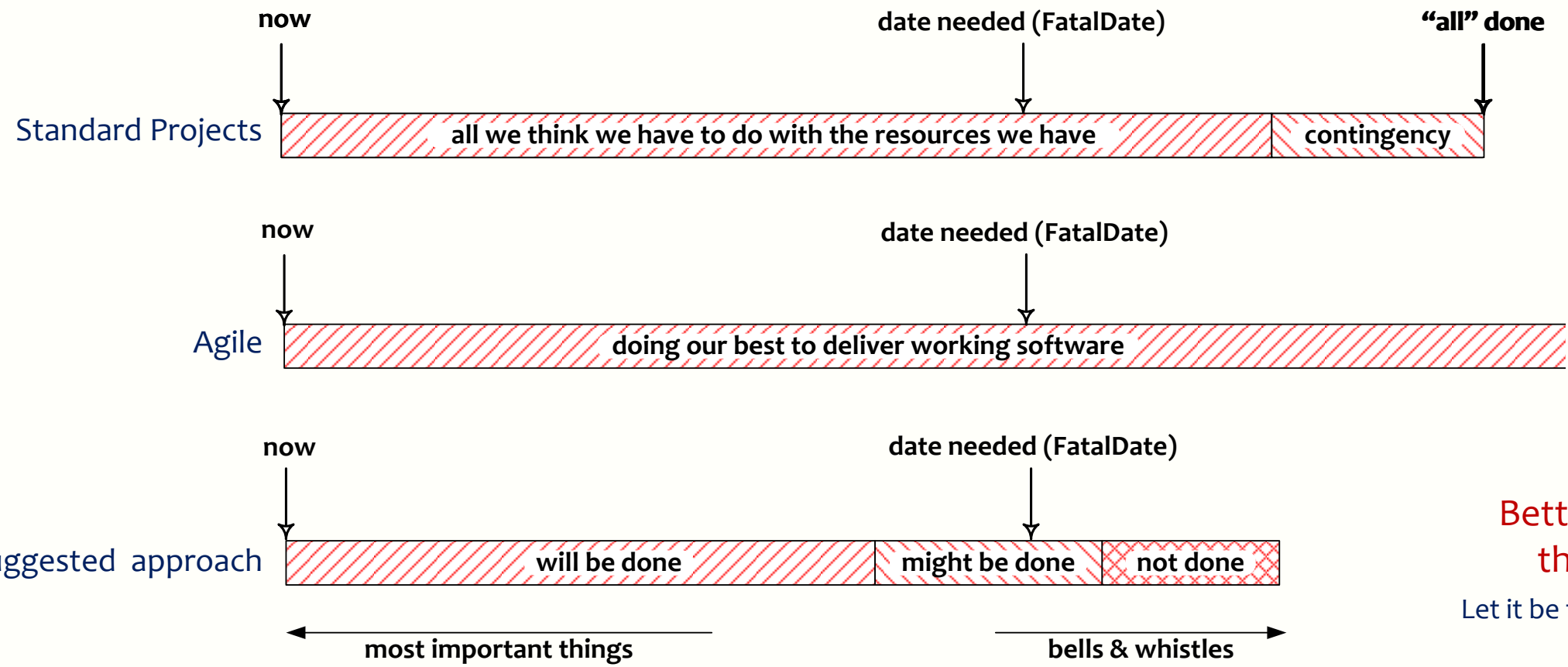
If they insist:

- Let them find out themselves

TimeLine

How do we know that we do, and get,
what is needed, *when* it's needed ?

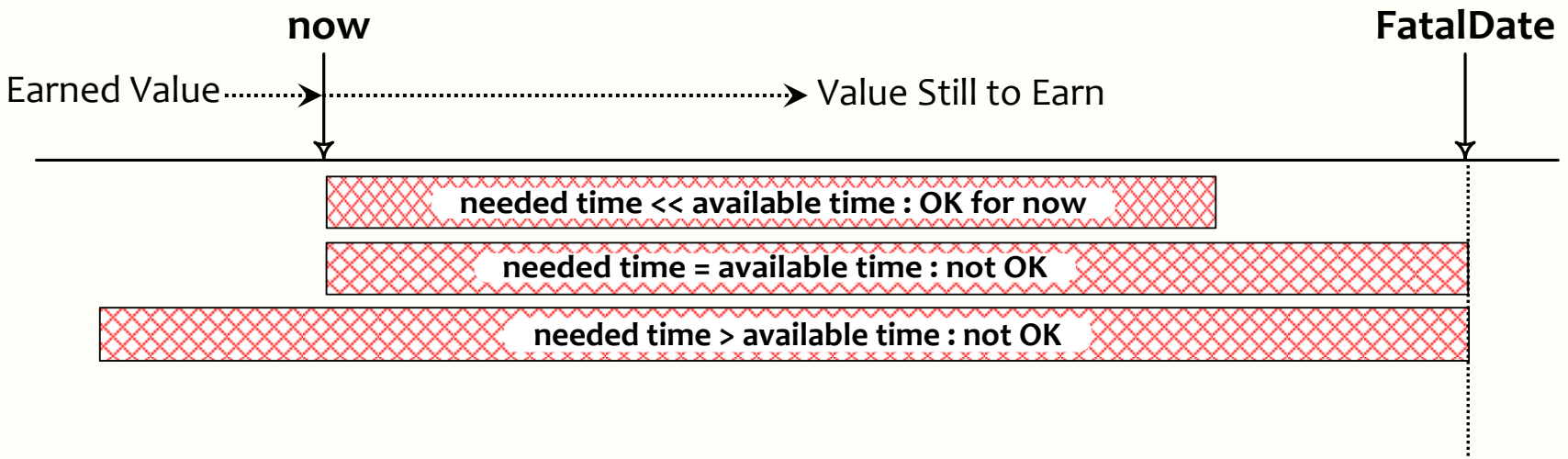




Better 80% 100% done,
than 100% 80% done

Let it be the most important 80%

At the time they need it



- Value Still to Earn

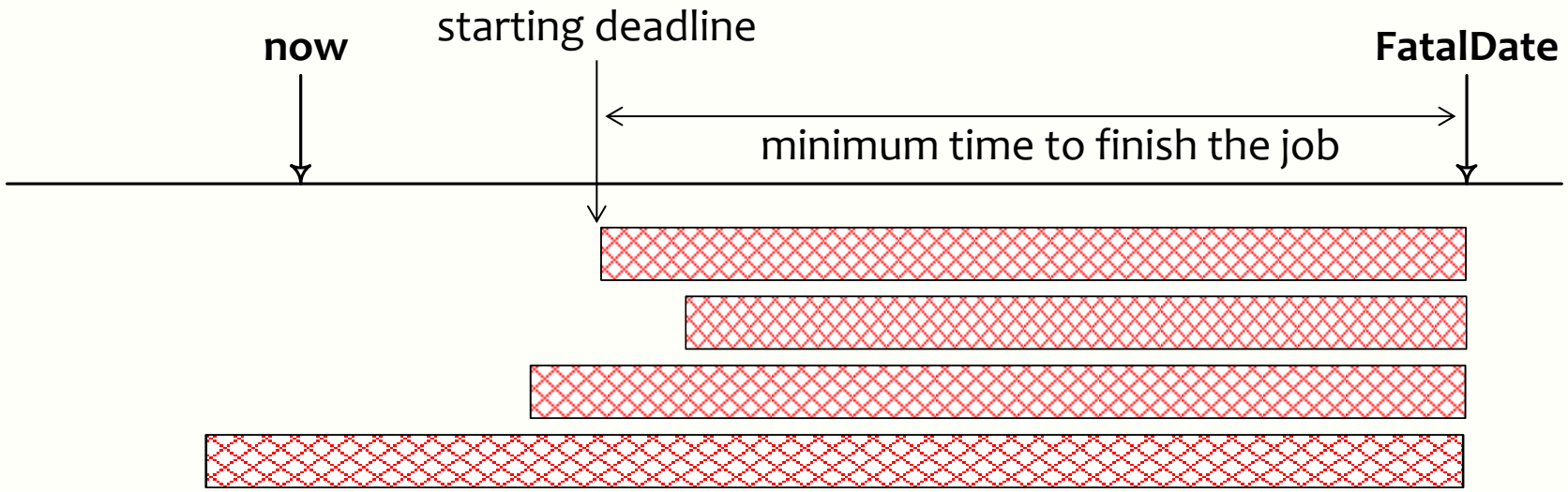
versus

- Time Still Available

When the match is over, we cannot score a goal

Even more important: Starting Deadlines

- To meet Delivery Deadlines, focus on *Starting Deadlines*
- Starting Deadline
  - Last day we can start to deliver by the delivery deadline
  - Every day we start later, we will end later



How to be on time

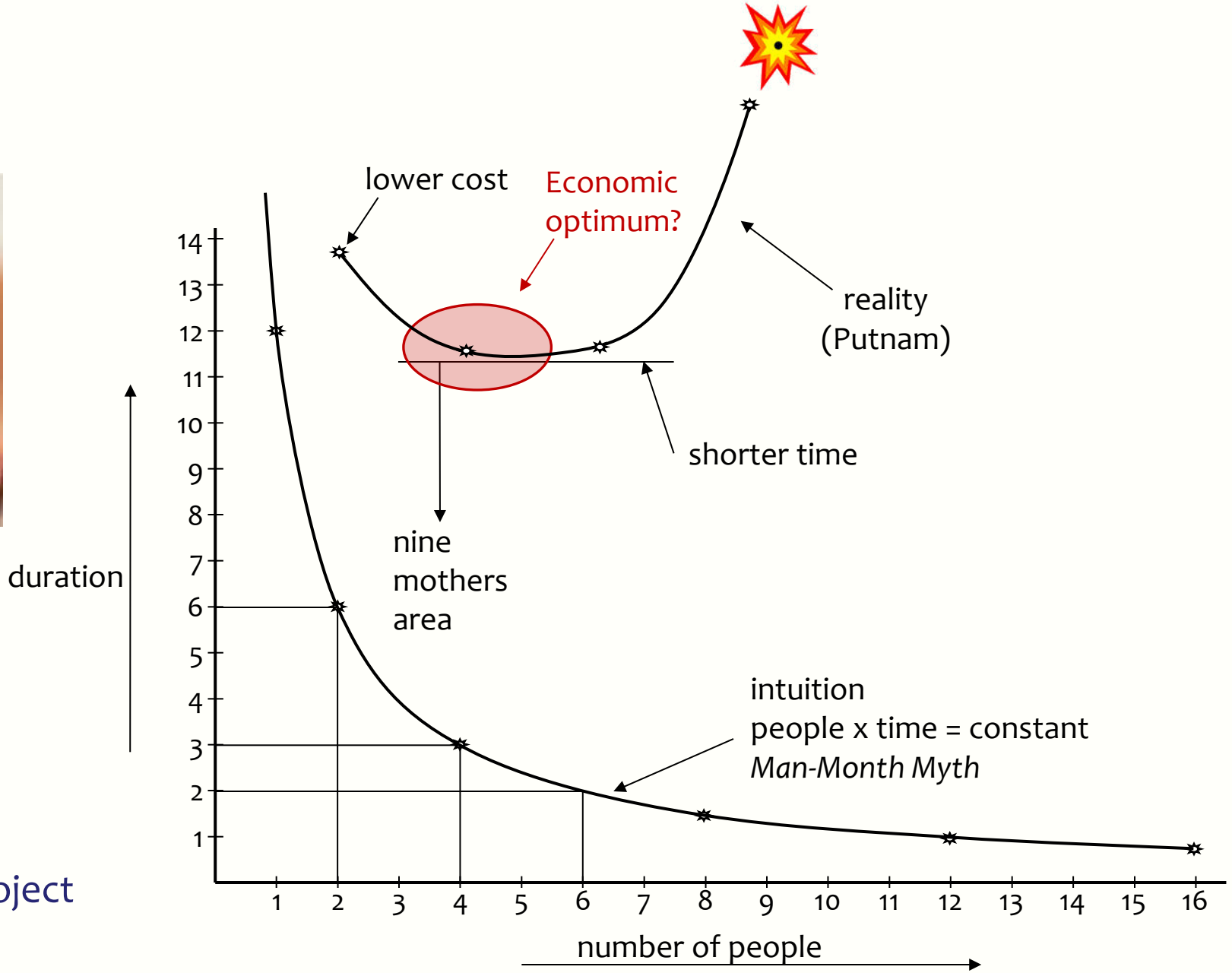
- Our deliveries are usually on time,
- … but we have to compromise the quality for being on time
  - That's not 'on time' *!*
  - What we deliver should simply work

- How can we save time, *without compromising quality* ?
- 7 options

Deceptive options

1. Hoping for the best (fatalistic)
2. Going for it (macho)
3. Working Overtime (fooling ourselves and our boss)
4. Moving the deadline
   - Parkinson's Law
     - Work expands to fill the time for its completion
   - Student Syndrome
     - Starting as late as possible, only when the pressure of the FatalDate is really felt

5. Adding people



Brooks' Law (1975)

Adding people to a late project *makes it later*

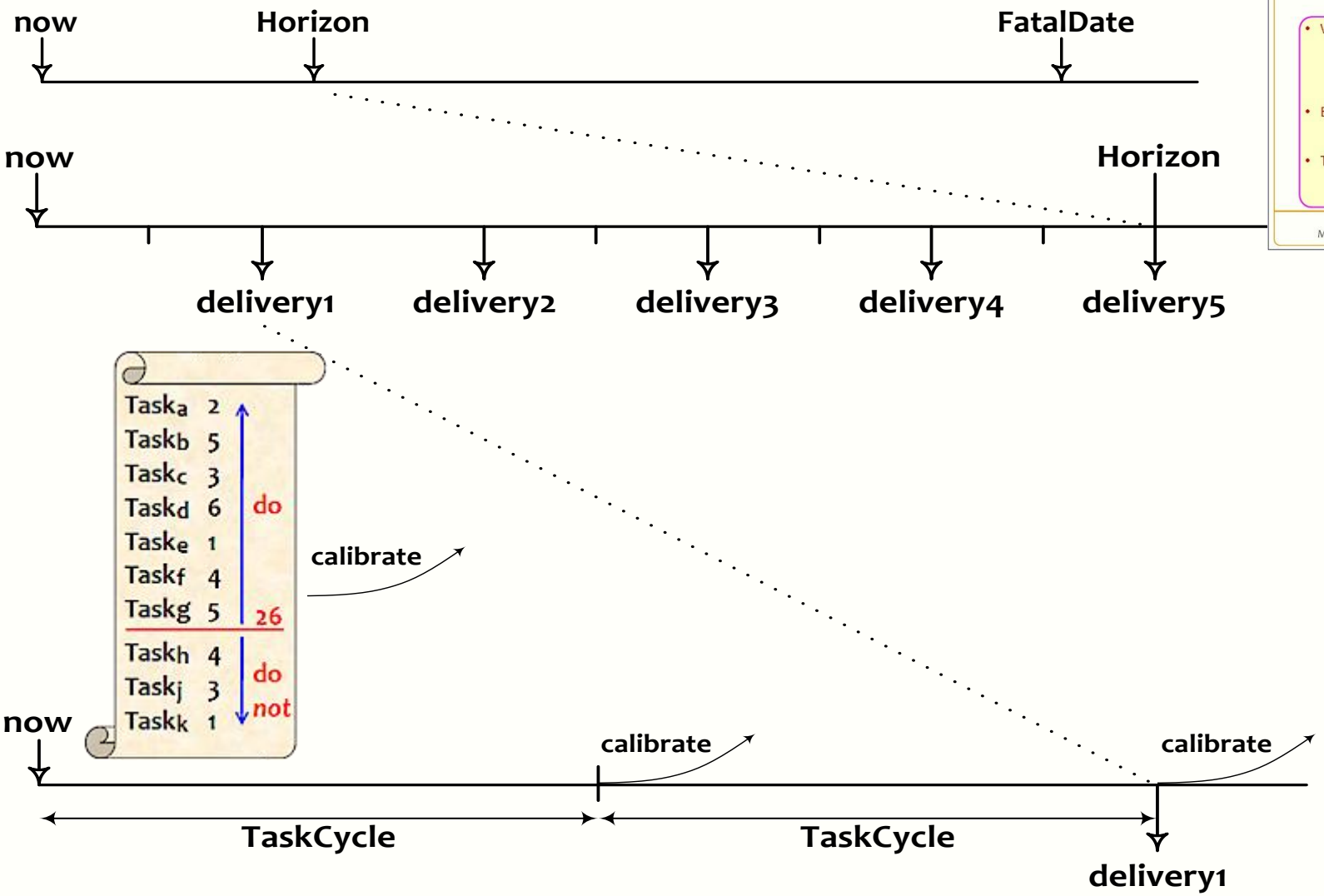
6. Saving time

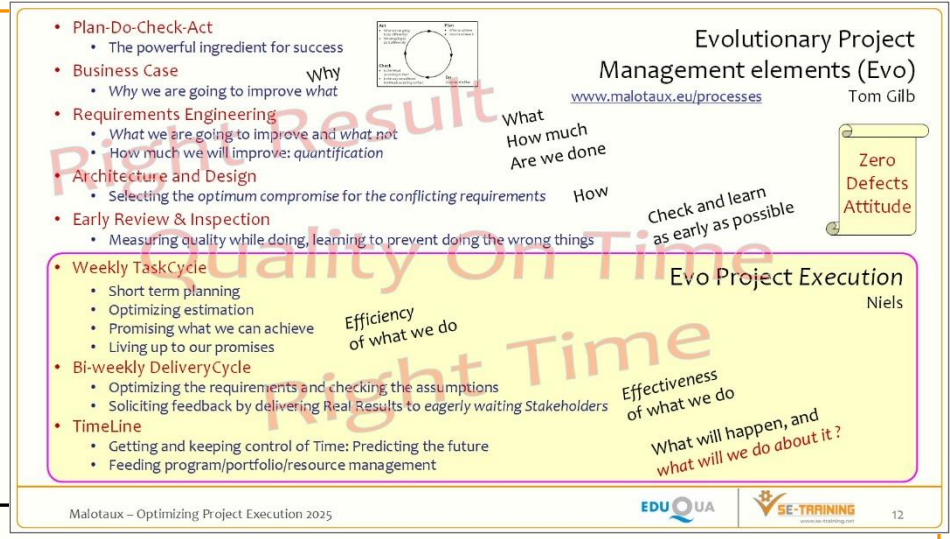
Continuous
elimination of waste
(www.malotaux.eu/essenceoflean)

We don't have enough time,
but we can save time *without negatively affecting the Result !*

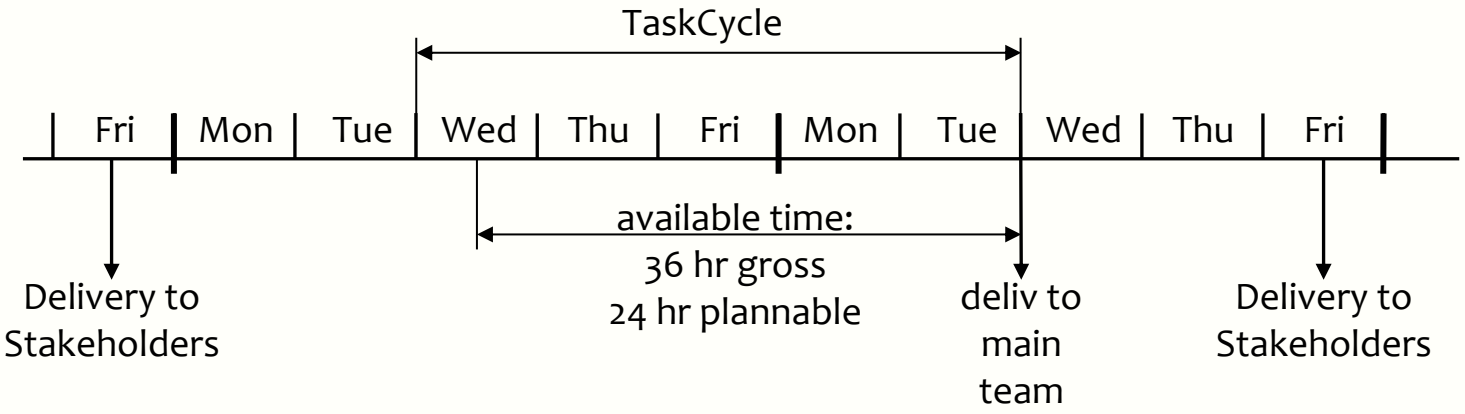
- Efficiency in *what* (*why*, for *whom*) we do - doing the right things (www.malotaux.eu/evo)
  - *Not* doing what later proves to be superfluous
- Efficiency in *how* we do it - doing things differently
  - The product (www.malotaux.eu/designlog)
    - Using proper and most efficient solution, instead of the solution we always used
  - The project (www.malotaux.eu/projectmanagement)
    - Spending less time, instead of immediately doing it the way we always did
  - Continuous improvement and prevention processes (www.malotaux.eu/PDCA)
    - Constantly learning doing things better and overcoming bad tendencies
- Efficiency in *when* we do it - right time, right order (www.malotaux.eu/timeline)
- TimeBoxing - much more efficient than FeatureBoxing (www.malotaux.eu/timeboxing)

TimeLine: Result to Tasks, and back





Designing a Delivery



Serge (TeamLead)	
MbWA	3
Planning nxt wk	3
Work for deliv	4
-	6
-	2
-	1
-	5
Total	24

Gregory	
Draft design	6
Finish design	6
Work for deliv	3
-	1
-	2
-	2
-	3
-	5
-	6
XMLa	4
XMLb	4
Total	42

Gregory (later)	
Draft design	?
Finish design	?
…	

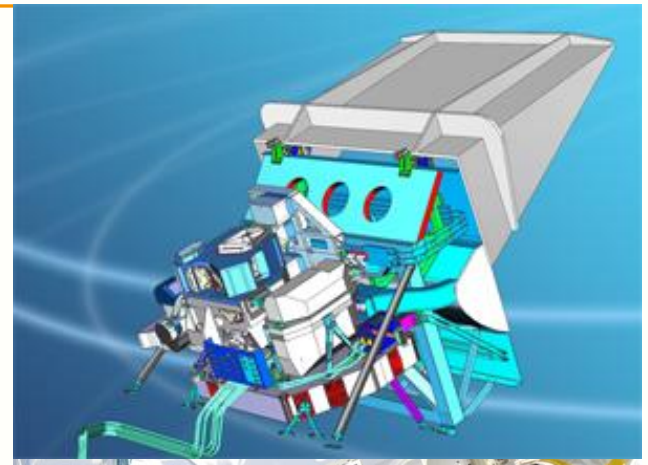
Jerome	
XMLa	3
XMLb	3
…	

From 60hr to 26hr, delivering better results

- One of three in a team insisting to work 60 hr the next week
- That probably won't all be done by the end of the week, right ?
- "Yes, but it >has< to be done !"
- Isn't that bad for your health? The others nodded
- After a long discussion, he gave in: planned 26 effort hours for that week
- Few weeks later he took me apart:

  Niels, thank you for your advice
  I was just nuts, getting too tired spending so many hours
  Now, every week I plan 26 net hours,
  getting done *more than ever before*

Earth Observation Instrument



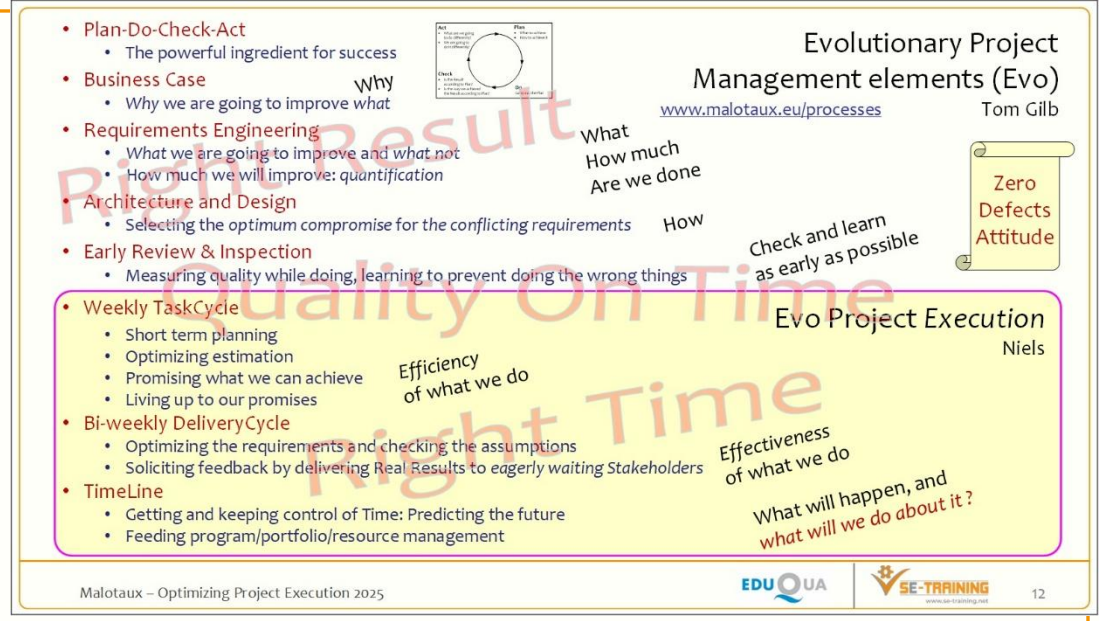
- Very experienced Systems Engineers
- Using quantified requirements routinely
- ~6 year pure waterfall project (imposed by ESA)
- Don't know exactly where they'll end up
- One problem: They missed all deadlines (can you help us)
- 9 weeks later: They haven't missed any deadline since
- Eventually delivered 1 day early (instead of expected 1 year late)
- Savings: at least 40 person-year (~ €6M ?)

No excuse anymore !

- Delivering the Right Results at the Right Time isn't really difficult
- I showed you some examples of how to do it
- So, there is no excuse anymore
  if you're not sure, just ask !
- No complaining or excuses
- Want to learn more detail ?
  - 2-day course, 17-18 June, Zürich
- No excuses: *What are we going to do about it ?!*

Optimizing Project Execution

- Importance of time
- Human behavior affecting our performance
- Good enough estimation isn't difficult
- Project life-cycles
- Evolutionary planning
- Stakeholders & requirements
- Selecting priorities
- Architecture and design
- Examples
- Exercises on your own situation



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Thank you for listening!
Q&A

Keep in contact

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