

Lean-Driven Project Management

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13 years experience with LEAN PM in the Goodyear Innovation Centers

6/17/21

Shingo Institute

**LEAN-DRIVEN
INNOVATION**

**POWERING PRODUCT DEVELOPMENT AT THE
GOODYEAR TIRE & RUBBER COMPANY**

Note

- This is a notebook mailed BEFORE the workshop
- It has APPROXIMATE content
- It is intended for “read ahead” and for people who like to take hard copy notes
- The content of the workshop depends on the attendees and may differ in some places
- The slides that were actually used will be mailed after the workshop

PURPOSE of Workshop


Turn good PM's
into excellent
PM's

What Projects Are We Talking About?

- New Products, innovation
- Software, ...
- Initiatives, lean, major change
- Capital,
- Continuous improvement
- Organizational, HR ...
- **Lean principles apply to PM regardless of the project**

Transformation Projects

- Lean Implementation
- Merger integrations
- Post engagement survey projects
- Dirty laundry projects – respectful



What is YOUR
Biggest Problem
as a PM, a leader,
an associate



What are the Biggest Problems With PM?

1. Project is late and/or over budget
2. Project did not deliver
3. Problems with team members
4. Scope and other changes
5. Frustrated and overworked people
6. Too much wasted effort (updates, reviews...)
7. The other project managers
8. Leadership



Not So Lean PM Experience

- My first PM class – **no use for that here**
- My first big project – **no help**
- We just call it – no support
- The desire for control – **the GANTT chart trap**
- **The HERO** – ambulance management
- Goodyear first attempt – knew about Chrysler CE – **academic consultant**
- Representing the customer – **the strongest wins**
- Lead as if you have no power or authority
- Largest functions managing crossfunctional projects .. Lack of collaboration
- **“Happy Team”** syndrome – compromised products and encouraged team competition
- Stage gate – implemented to kill projects but it created collaboration
- **PM Software** – EXPENSIVE BAD PROCESS
- **Today: Right Organization and PMO – building and learning**

Goodyear PM Success

Before Lean
~ 50%

After Lean -
100%



Learning PM From Toyota

Not much information about Toyota PM

Use of the Chief Engineer concept

Matrix-like organization

**What happens if you plug the Toyota
CE into any organization?**

Why do we do projects?

- We need something
- No single competency can do it alone
- A team plays better with a coach

PM is the collaborative effort towards something

The IDEAL Project

- Everybody is happy and had fun
- Everything was delivered on time, target, budget...
- The world is a much better place for all involved
- There are no side effects

What is Lean

- Using the PRINCIPLES of lean or excellence
- AND
- A culture that makes all stakeholders happy

My ~40 years in the industry

- Nothing had the impact of “lean” or the never-ending improvement of people and processes
- It took me 40 years to learn it and I am still learning
- I wish I had learned it earlier
- Business schools (and PM organizations) are catching up



Principles of Lean Project Management

- LINE THINGS UP FOR SUCCESS
- IMPROVE THE GOOD THINGS YOU ALREADY HAVE
- ACHIEVE EXCELLENCE BY IMPLEMENTING THE PRINCIPLES OF LEAN PROJECT MANAGEMENT

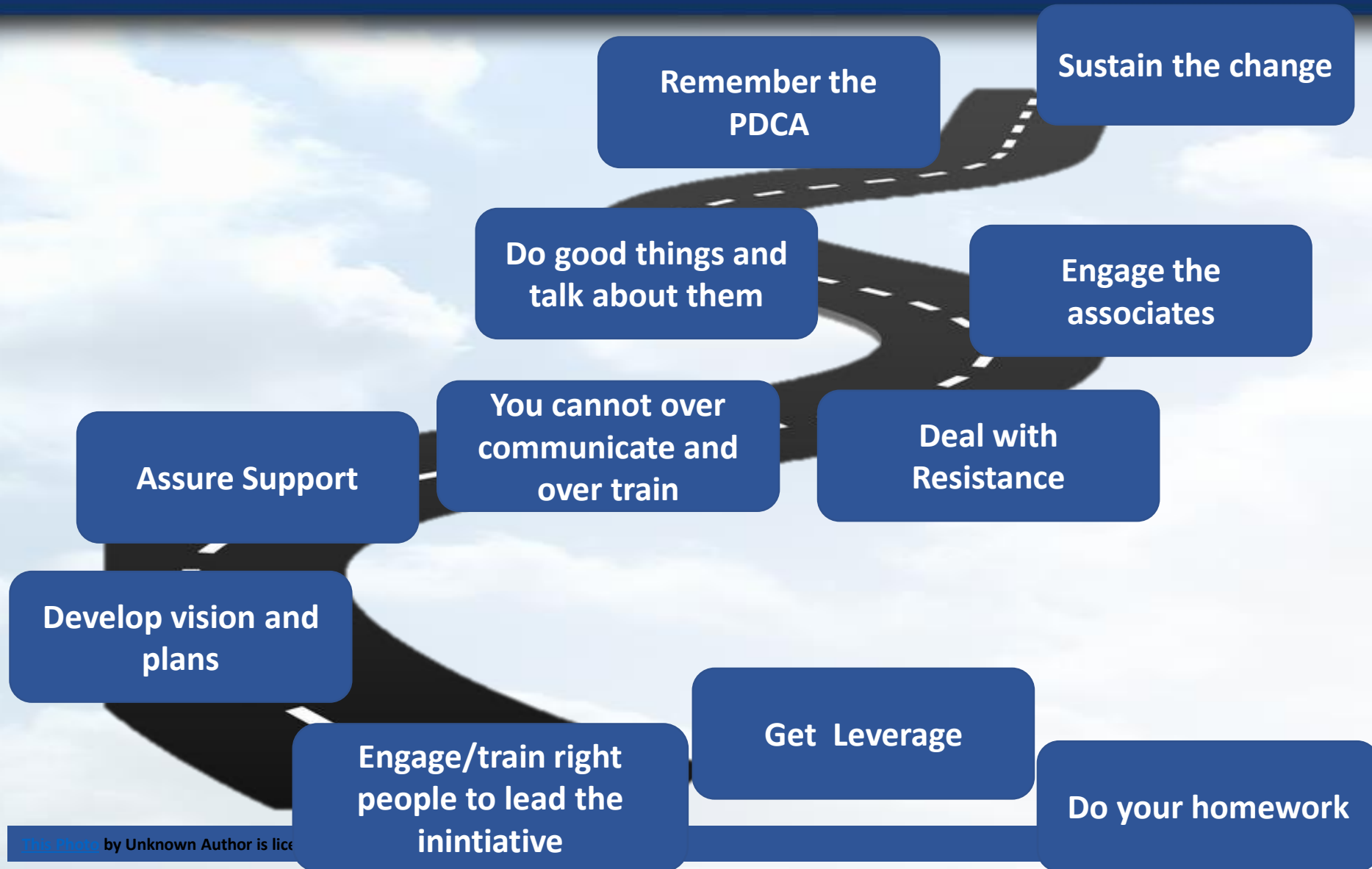
Line Things Up For Success

- Remove Obstacles
- Proper Change Management
- **Right Organization**

Obstacles

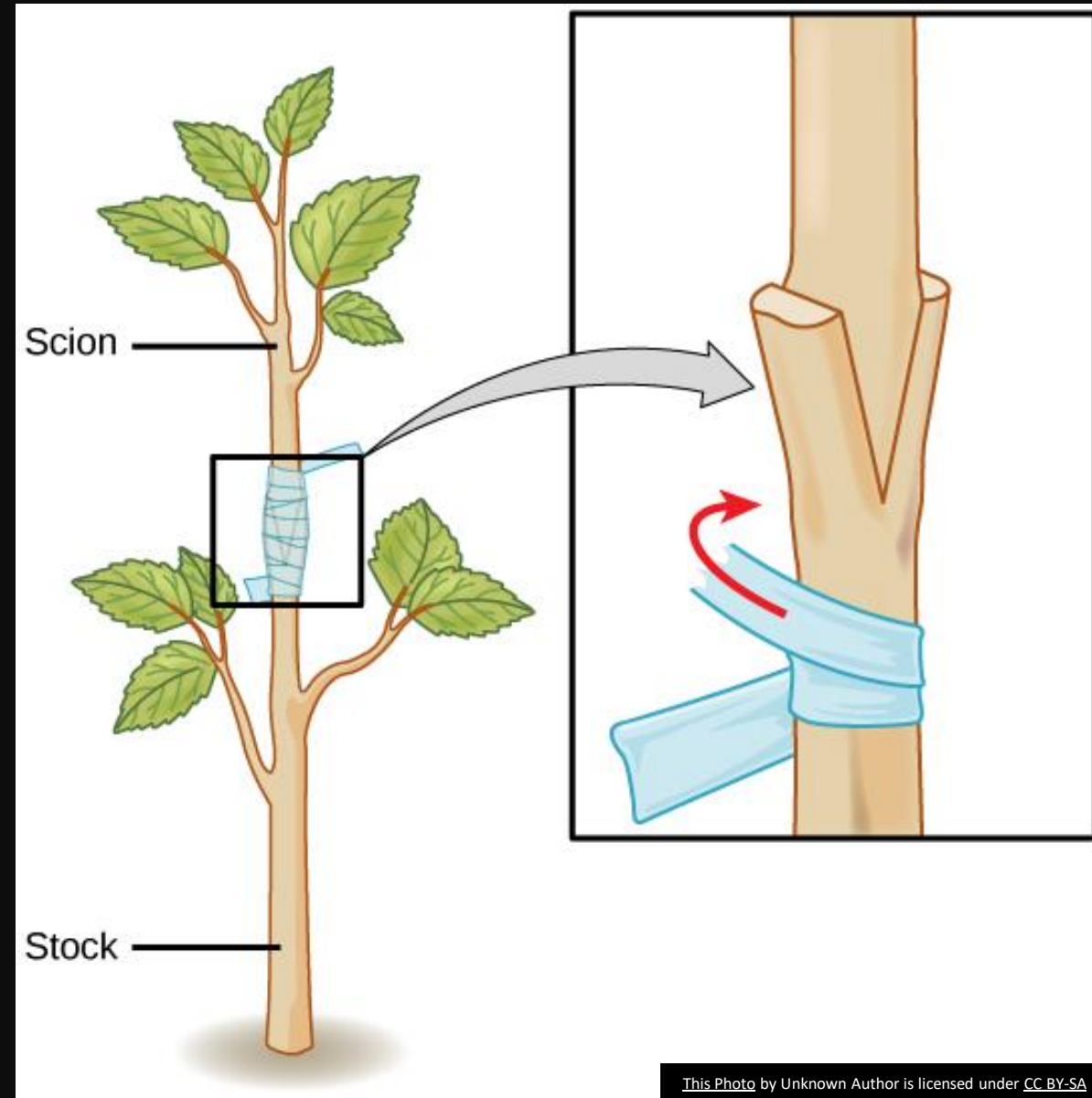
- To collaboration
- Internal Competition
- Wrong Rewards

MY Roadmap to a Lean Culture



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Grafting the Chief Engineer on ANY Organization

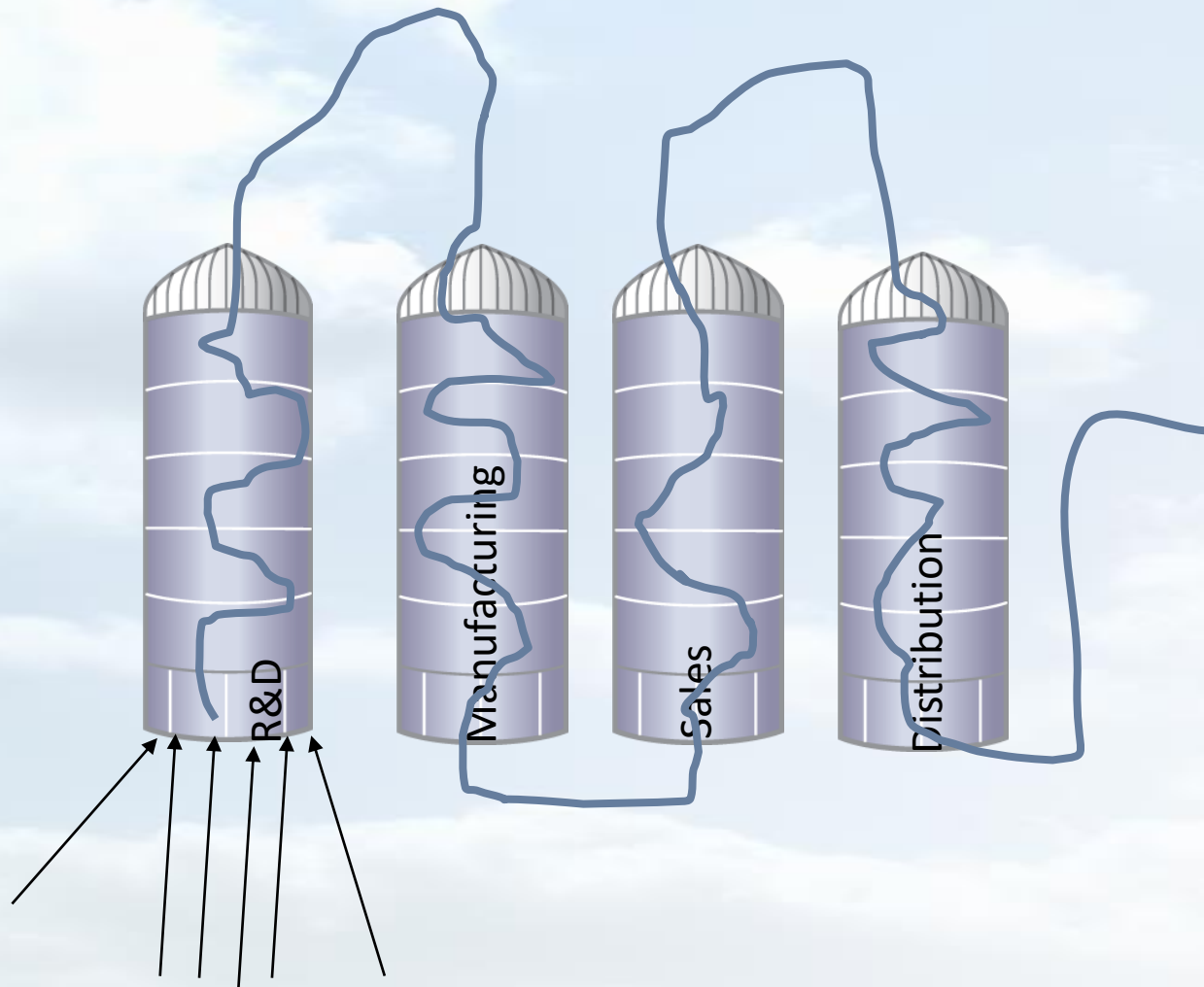


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Organizations

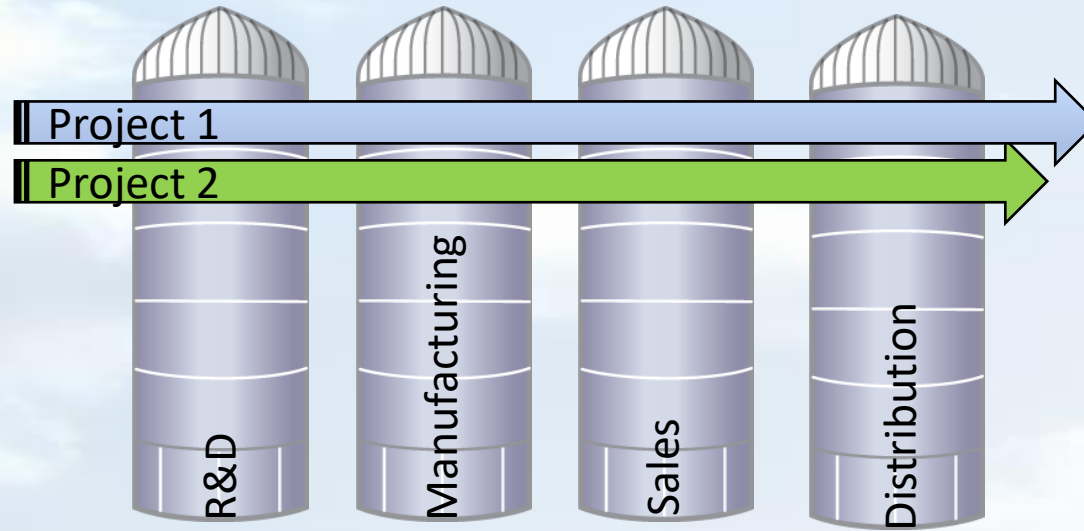
- Functional
- BY Product/Value Stream
- BY Project
- Matrix

From

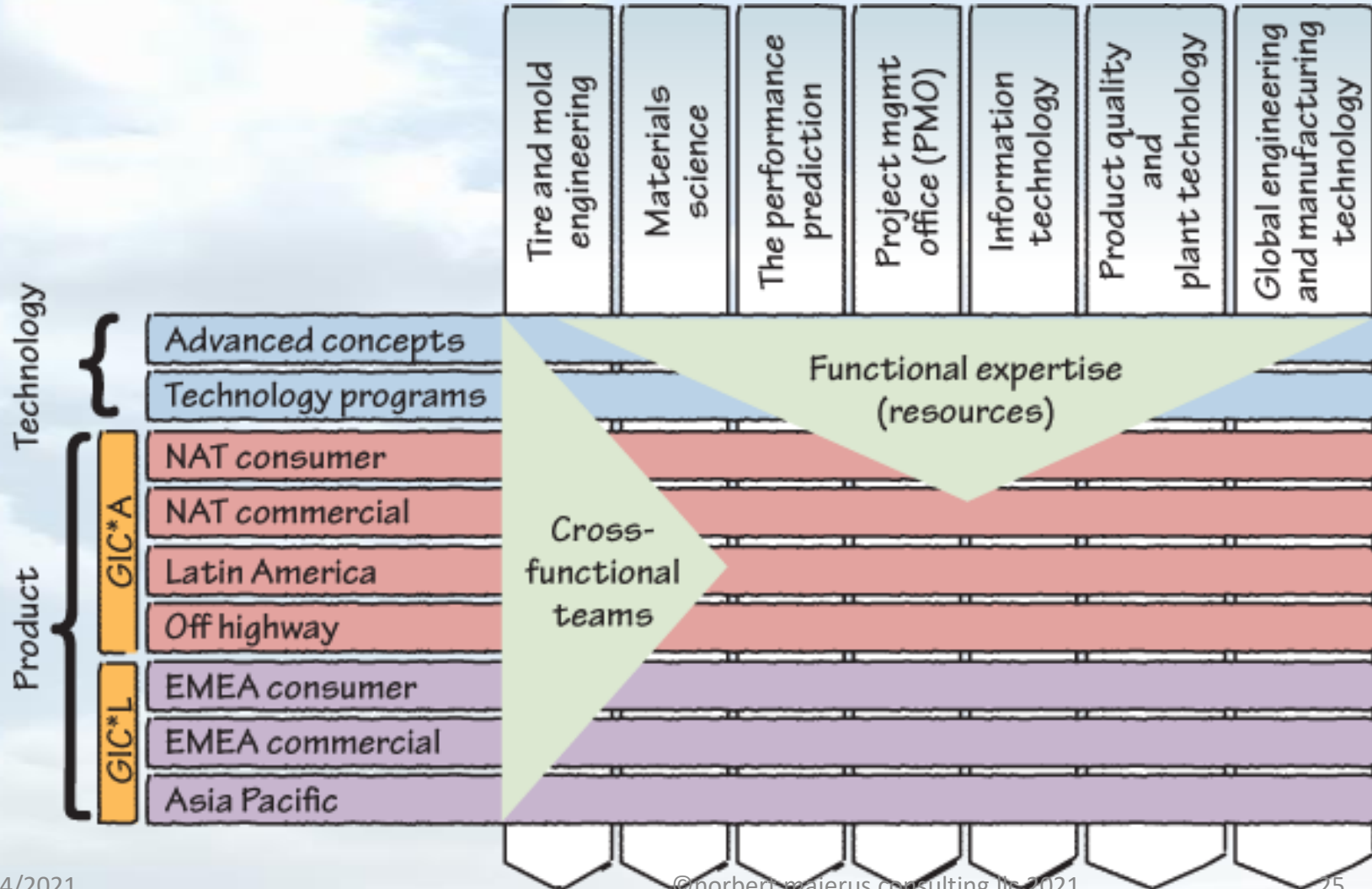




To



Matrix

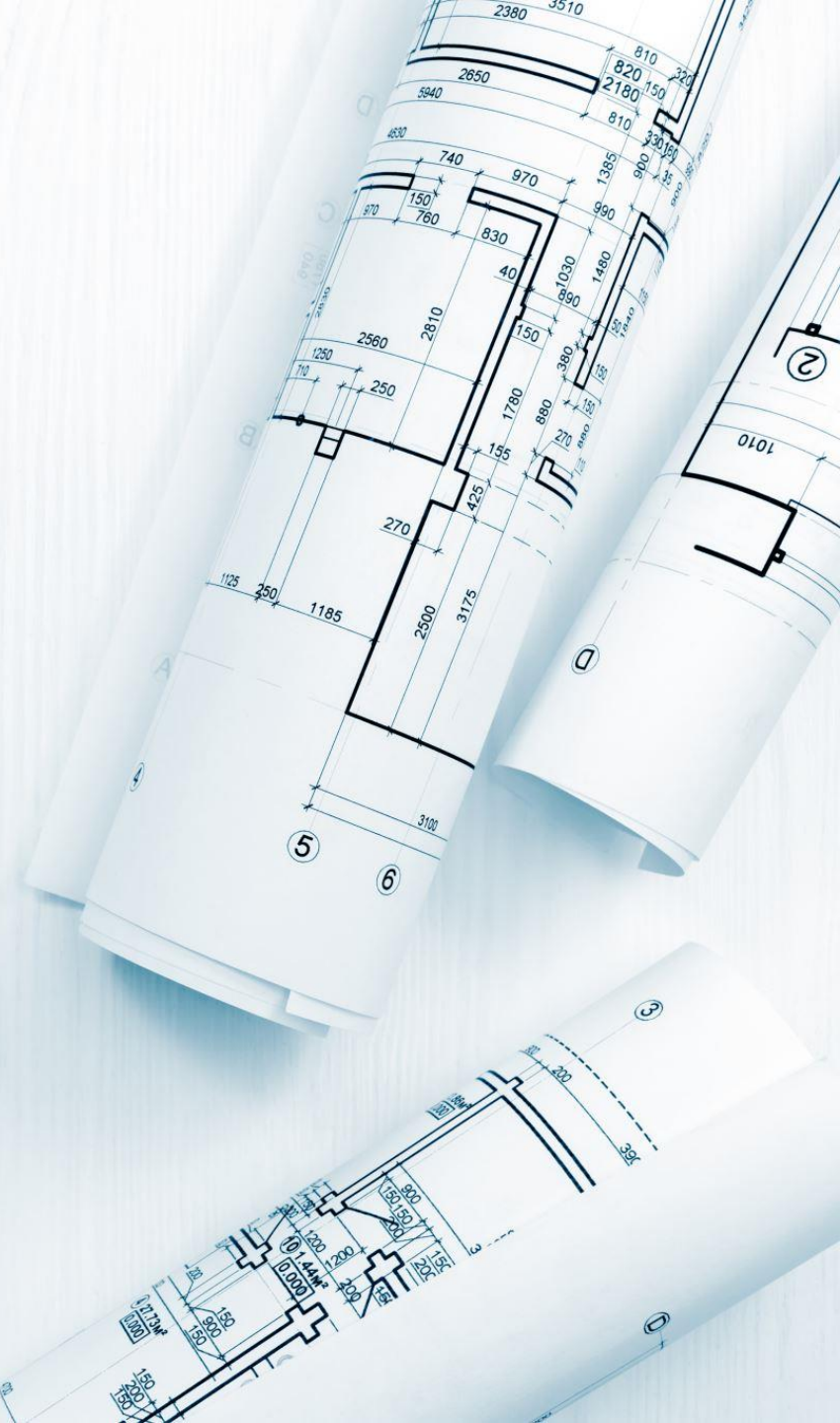


IMPROVE THE GOOD THINGS YOU ALREADY HAVE

- Working on the right stuff
- Goals
- Contract

Who sets the project goals

Who should set them?



Catchball

... in a dodge ball culture

Game

**People are accountable to
deliver on agreed goals**



Catchball Principles

- Engagement
- You tell me – I have the right to know
- I agree and I support you
- Responsibility and **Accountability**
- **Accountability is responsibility to deliver what we agreed upon**
- Let me know when things change and when I can help

Principles of Lean Project Management

- LINE THINGS UP FOR SUCCESS
- IMPROVE THE GOOD THINGS YOU ALREADY HAVE
- ACHIEVE EXCELLENCE BY IMPLEMENTING THE **PRINCIPLES OF LEAN PROJECT MANAGEMENT**

Principles of Lean Project Management

FOUNDATIONAL

OPERATIONAL

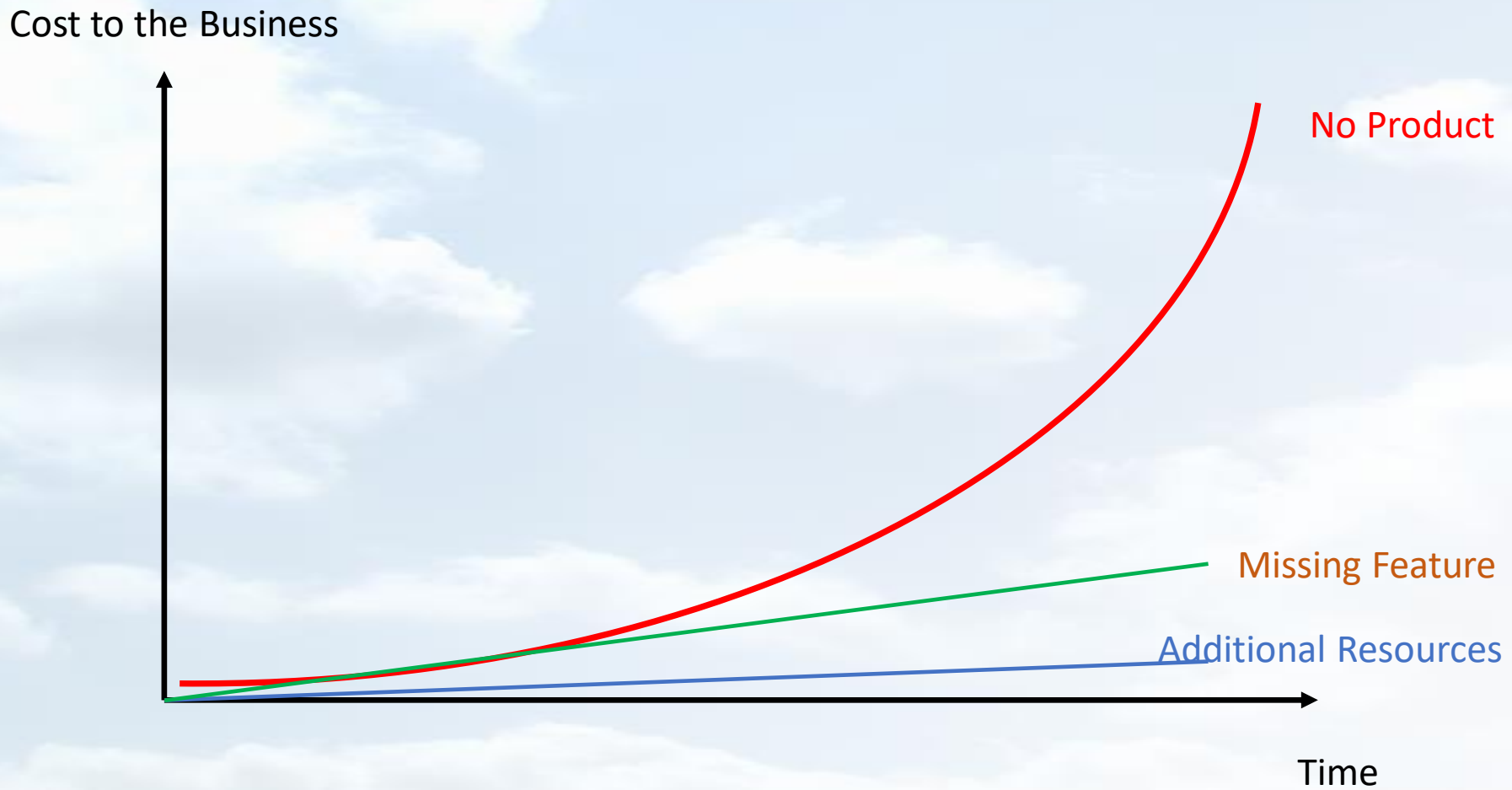
MANAGERIAL
(PEOPLE)

Foundational Principles

- Portfolio Management
- Know the cost of time, goals, resources, targets
- PMO function
- Lean Risk Management



The Cost of Time/Delay



R&D Department vs Company

Formula COD

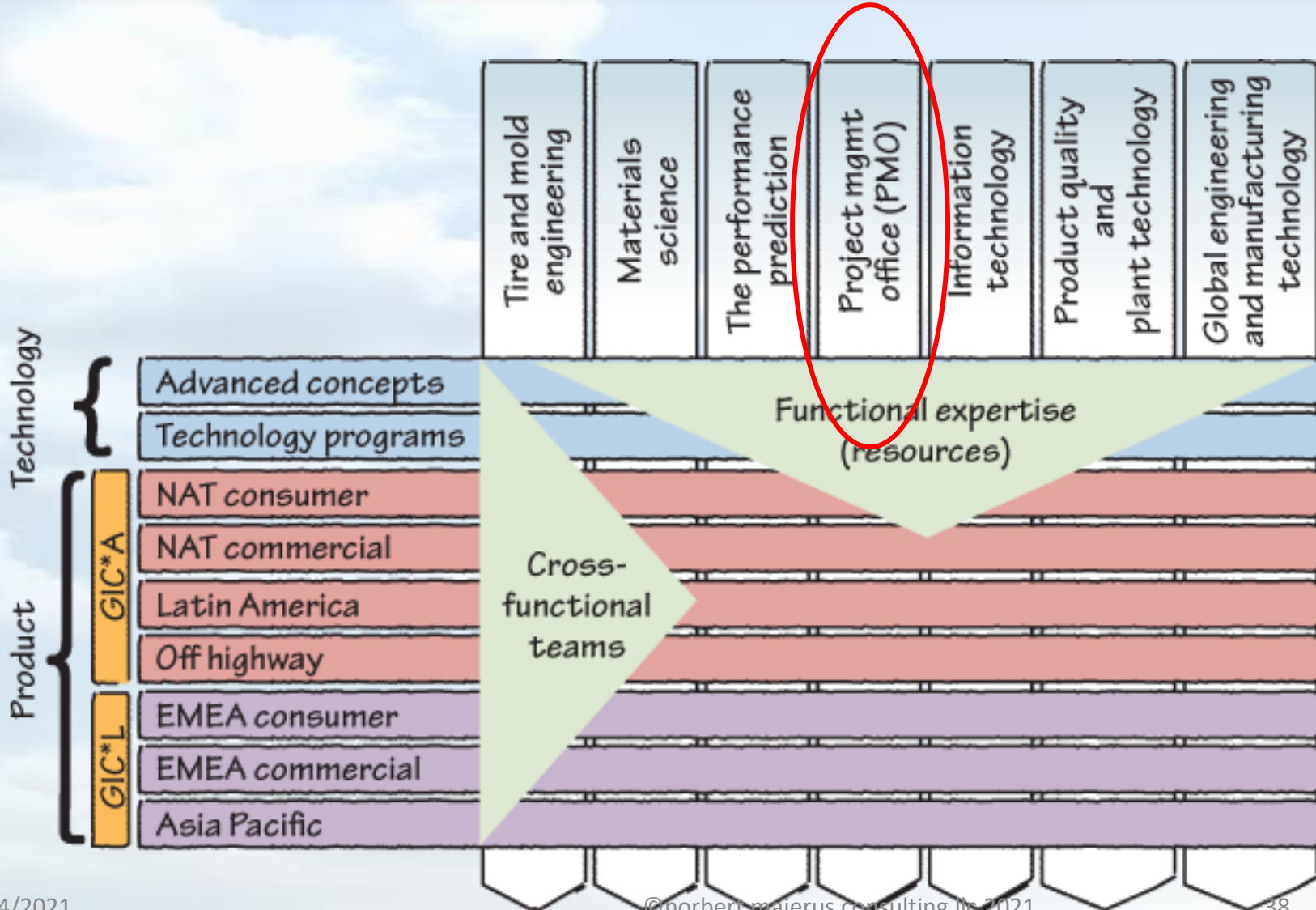
*COD = monthly financial measure * number of months + fixed amount*

$$COD = \sum_{k=0}^n \text{monthly cod} + \text{fixed part}$$

Principle

- The cost of time mostly dwarfs the resources
- Only project managers who do not know the cost of time let the time slide

Matrix



PMO Function

- Purpose of function
 - Support Projects
 - Develop/ Manage Knowledge
 - Share/educate/coach
- PM's dual report to technical directors and PM office



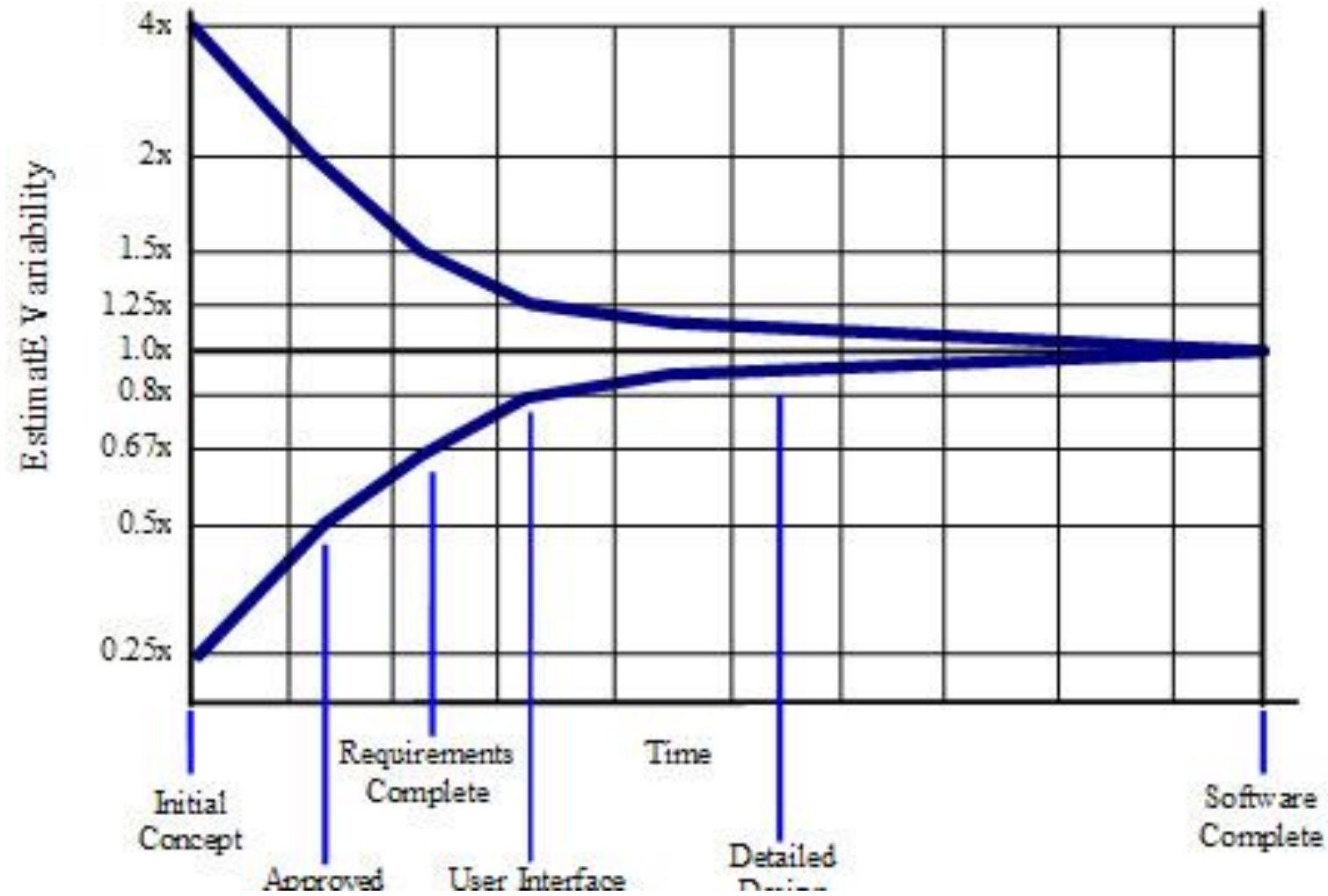
Lean Risk Management

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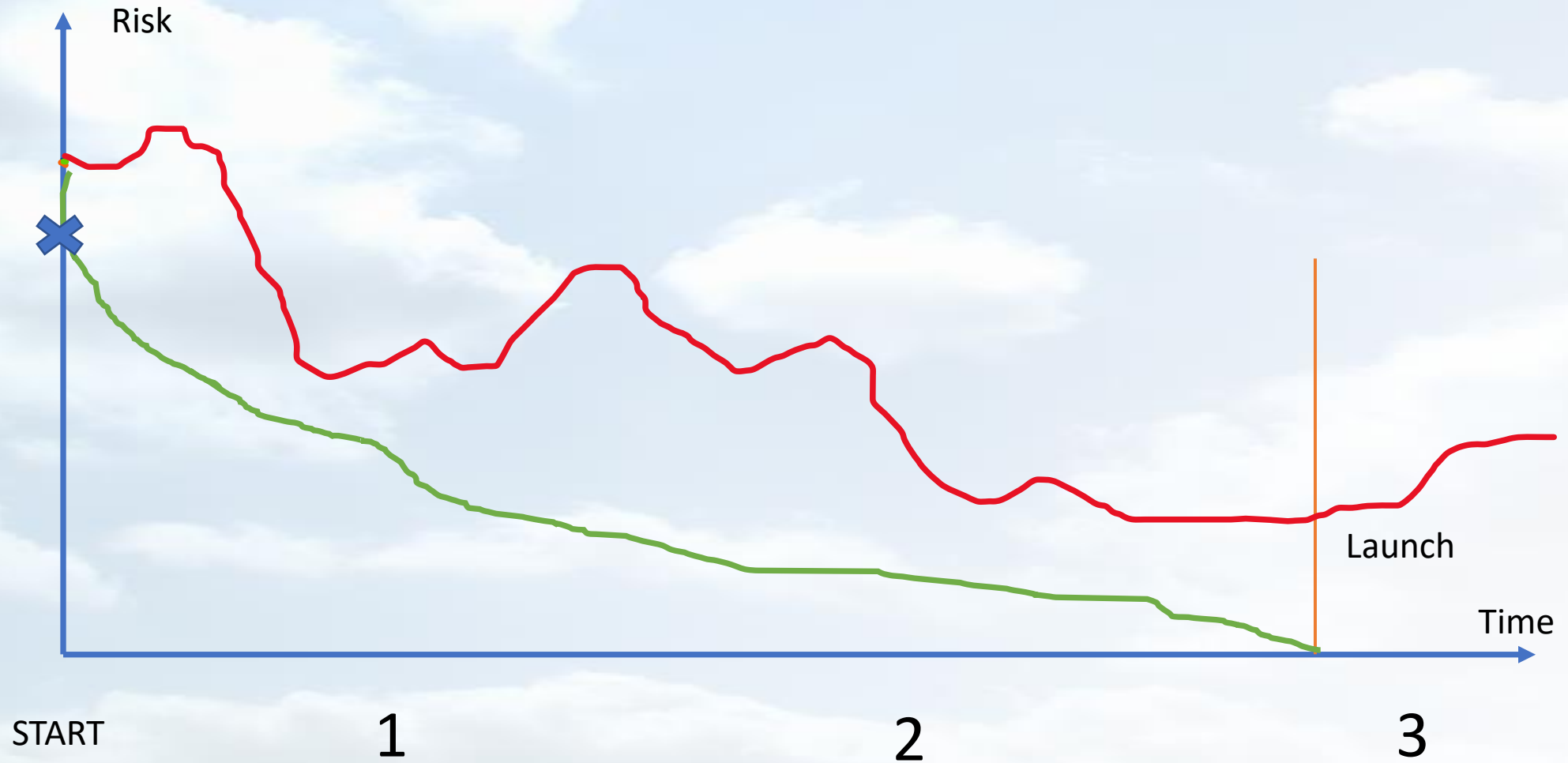
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Understanding Project Risk

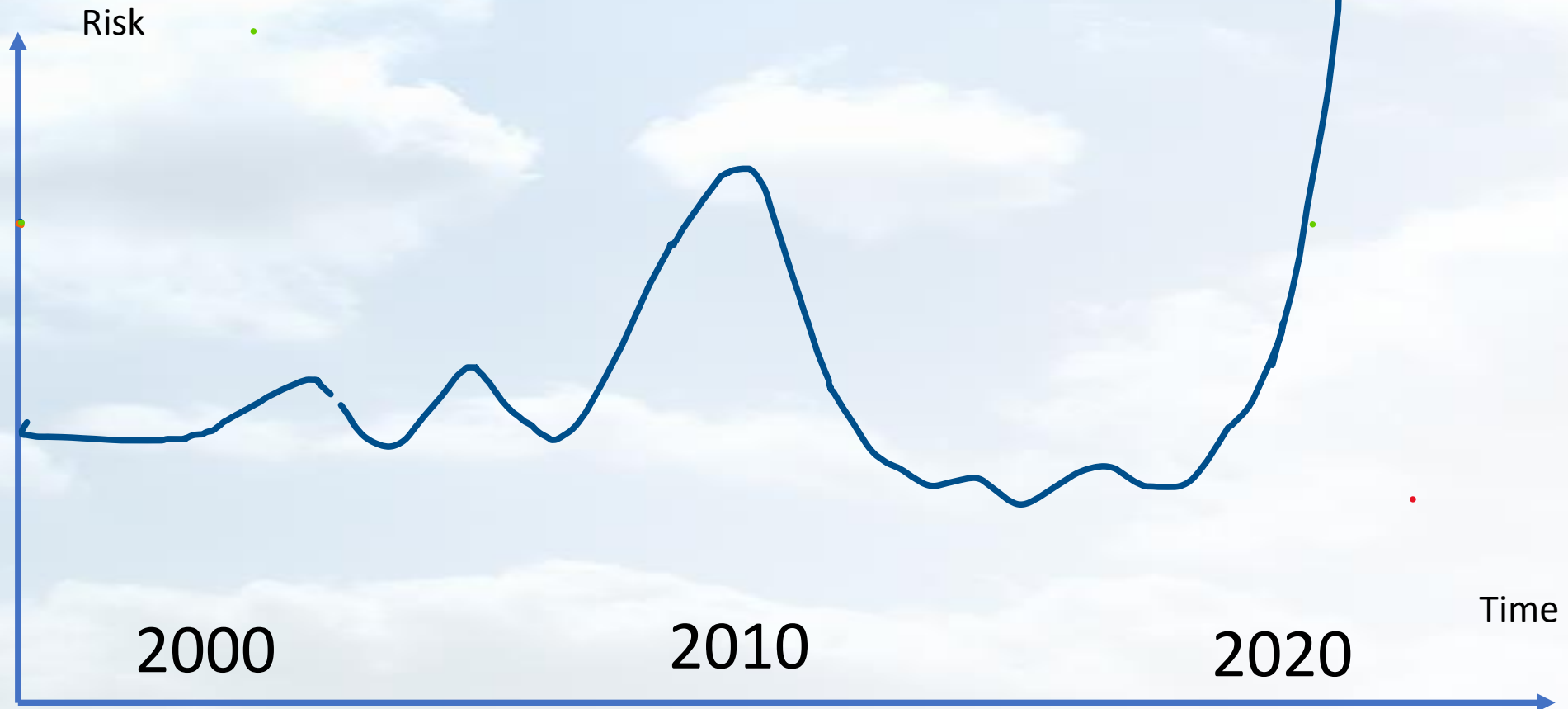
McConnell – Cone of uncertainty



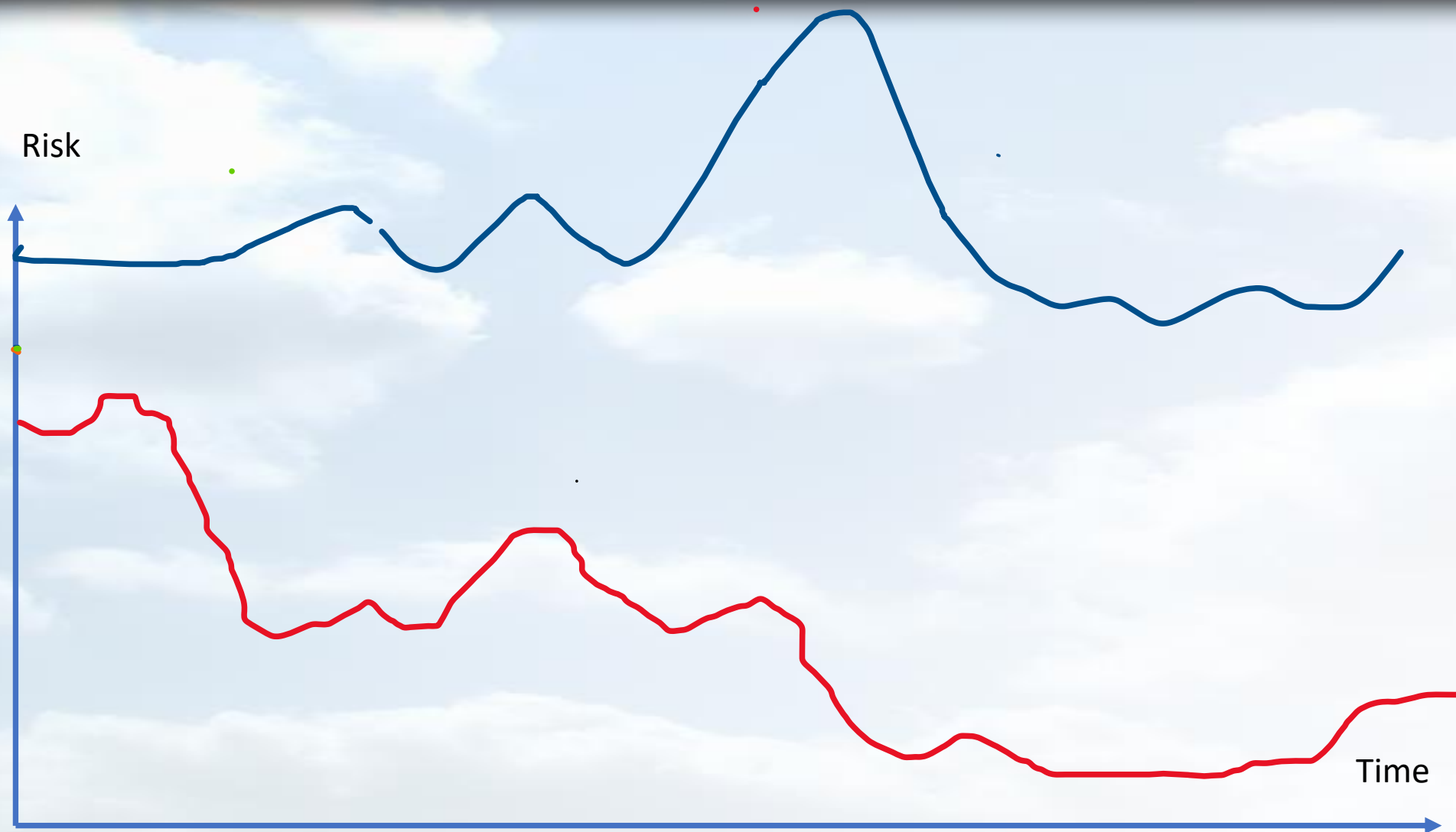
Project Uncertainty/Risk



Economic Uncertainty



Project Risk





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2 Leading PRINCIPLES

**You know nothing about the project
until you start working on it**

And things will change every day

Explore a Vast Space



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Experiment in small steps
Allocate money in agile manner

Quick Learning Cycles – SCRUM, sprints, agile ...

Time Period
Goal, deliverable

| Name function or work to do | TO DO | IN PROGRESS | DONE |
|-----------------------------|---|---|---|
| |  |  | |
| |  |  |  |
| |  |  |  |

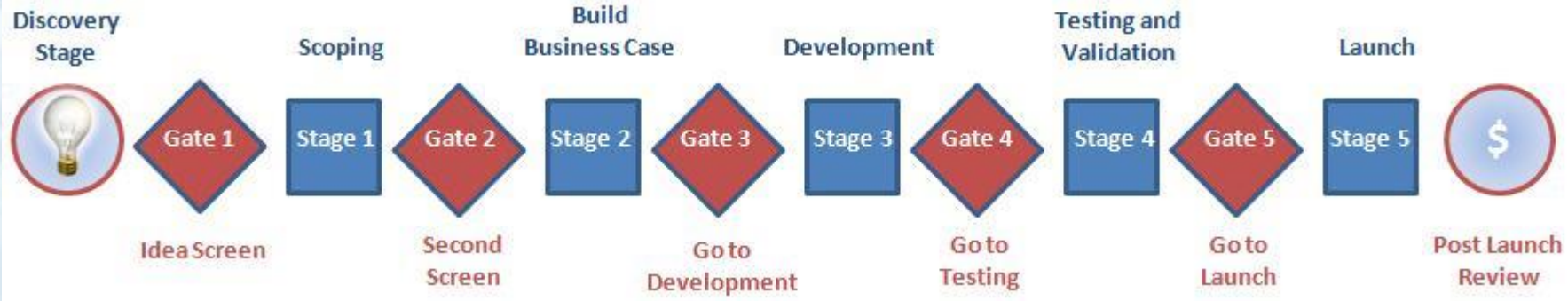
Potentially Shippable
Product after every
cycle

- Work in very small steps, FAST – often time limited steps
- Cross functionally from the beginning
- Retain flexibility through the process – launch or pivot at any time
- **And**
 - **With the minimum effort**

Agile - but not like this

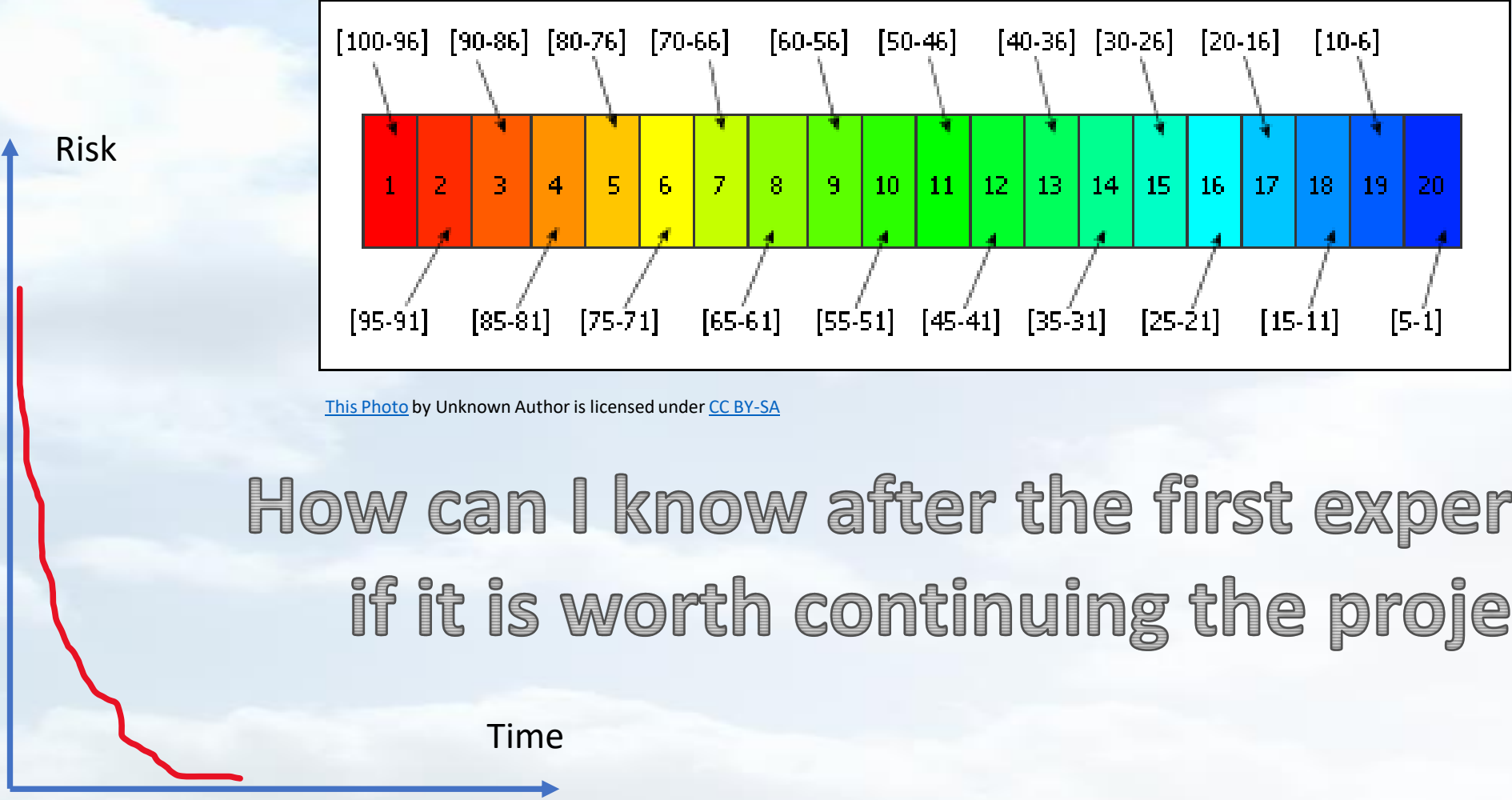


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Follow the Risk Scale With Critical Questions



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How can I know after the first experiment if it is worth continuing the project?



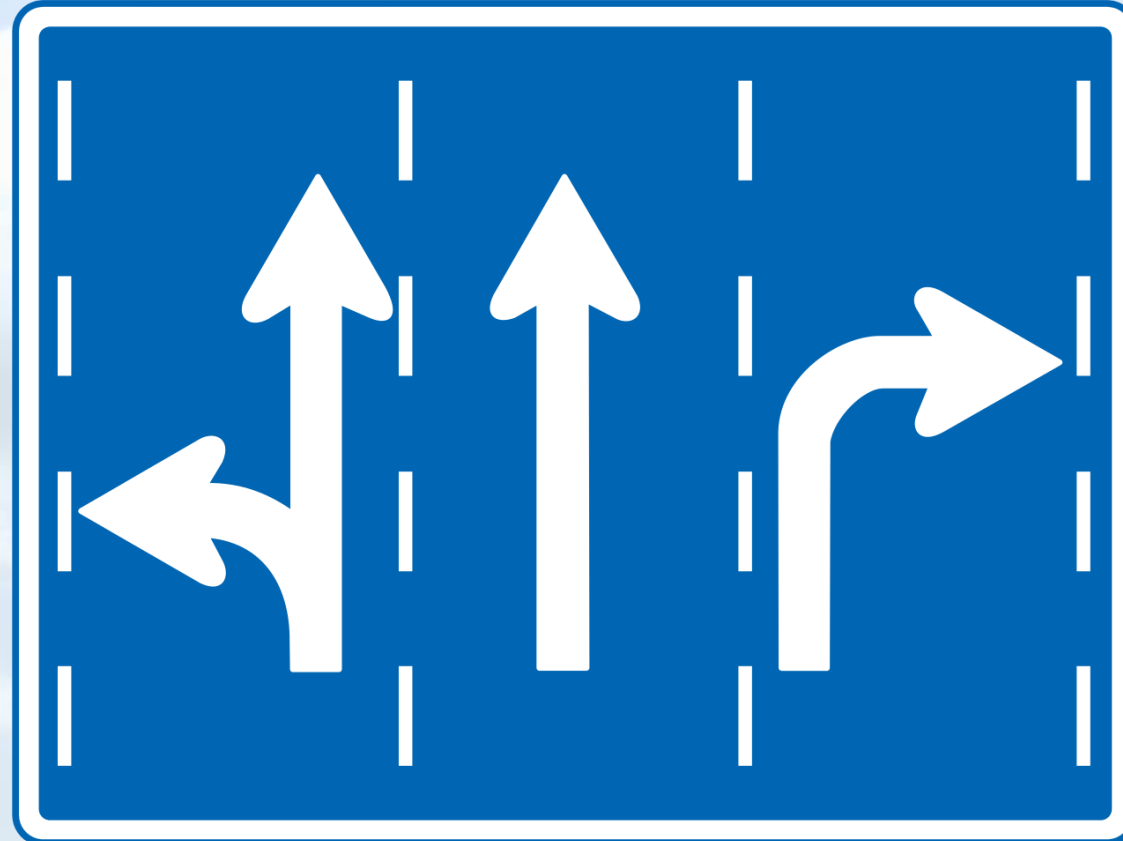
Building a house

~~Start Digging~~

- Buy land
- Make a drawing
- Get a permit
- Start digging

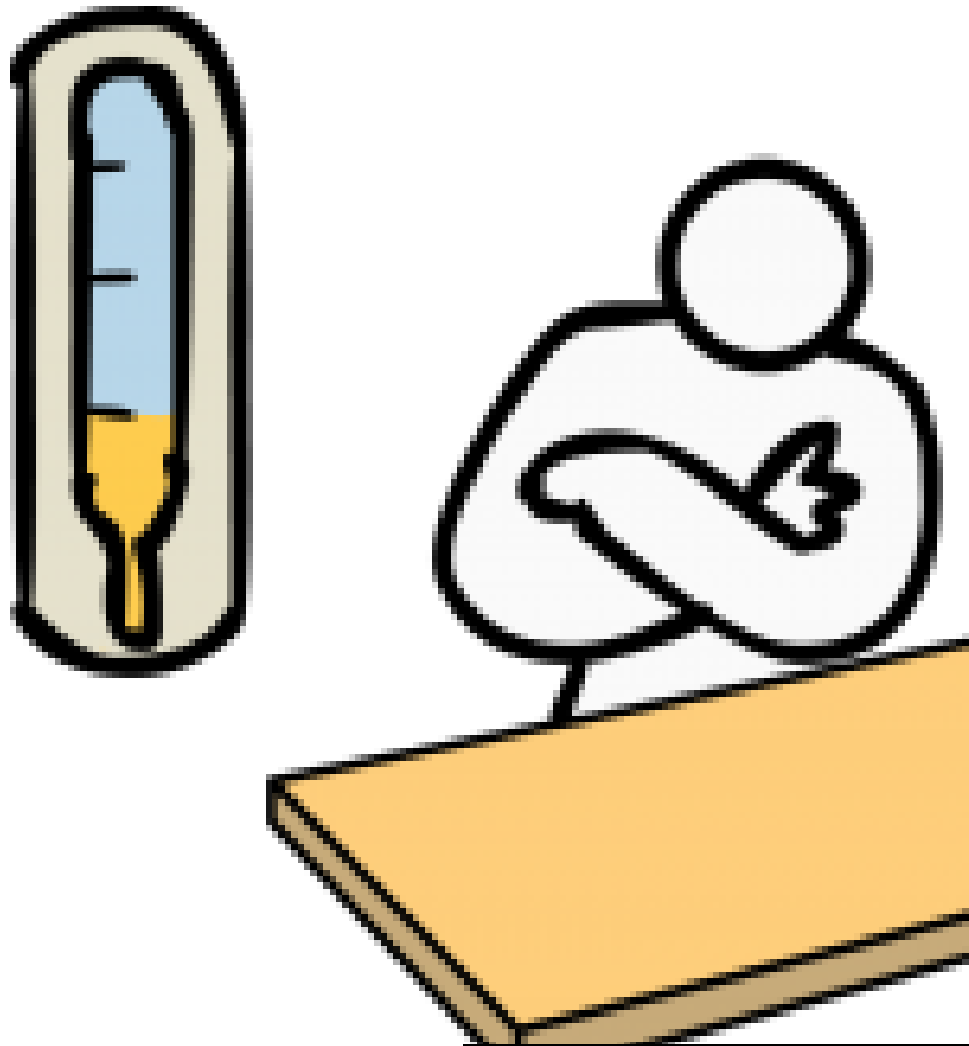
Stay the course

Pivot



Freeze

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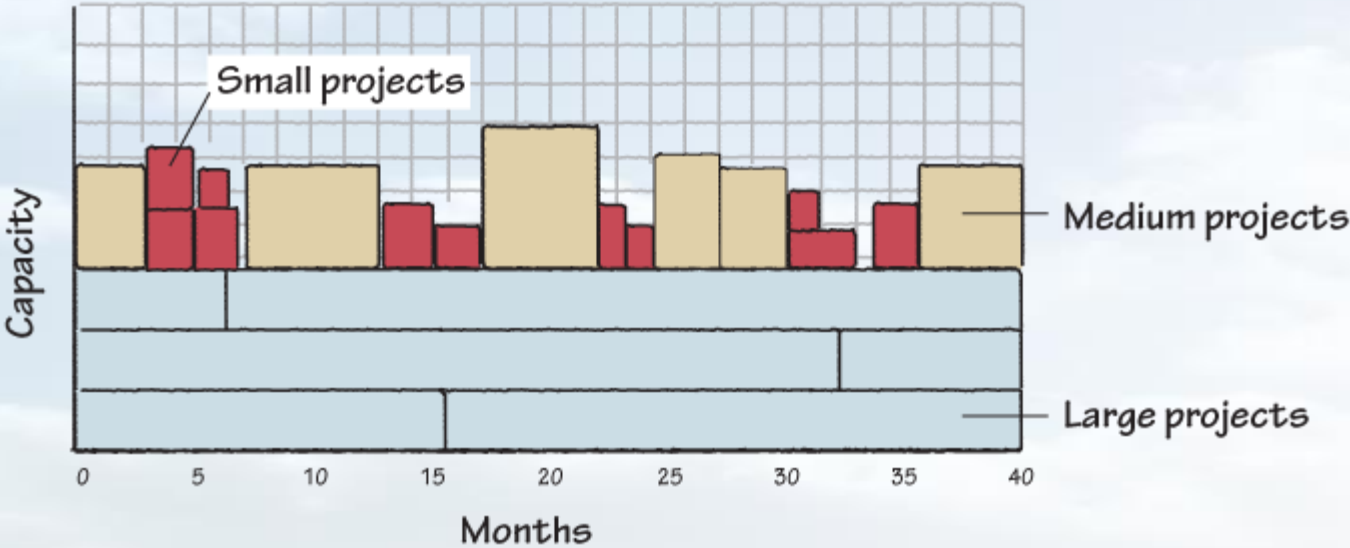
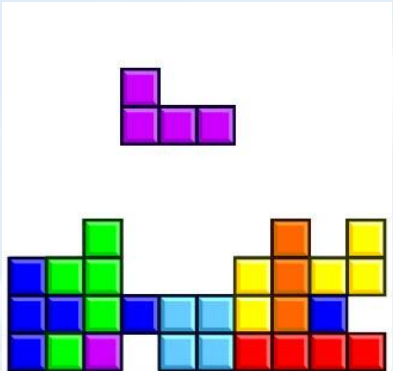
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What About LOW Risk Projects?

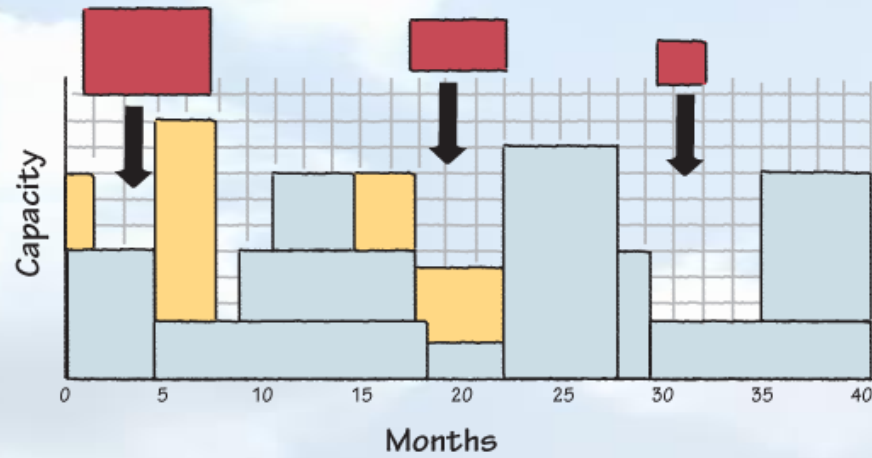
Project Risk Assessment



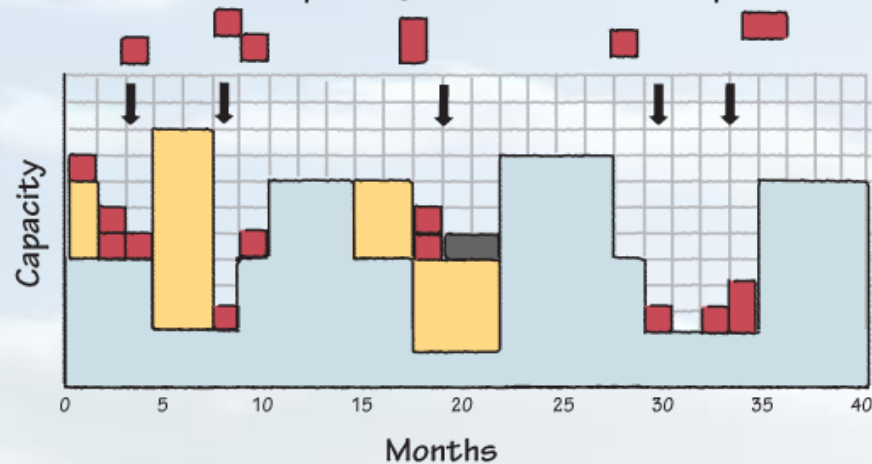
Managing in Small Pieces - Tetris Principle



Tetris Principle – Managing in Small Pieces

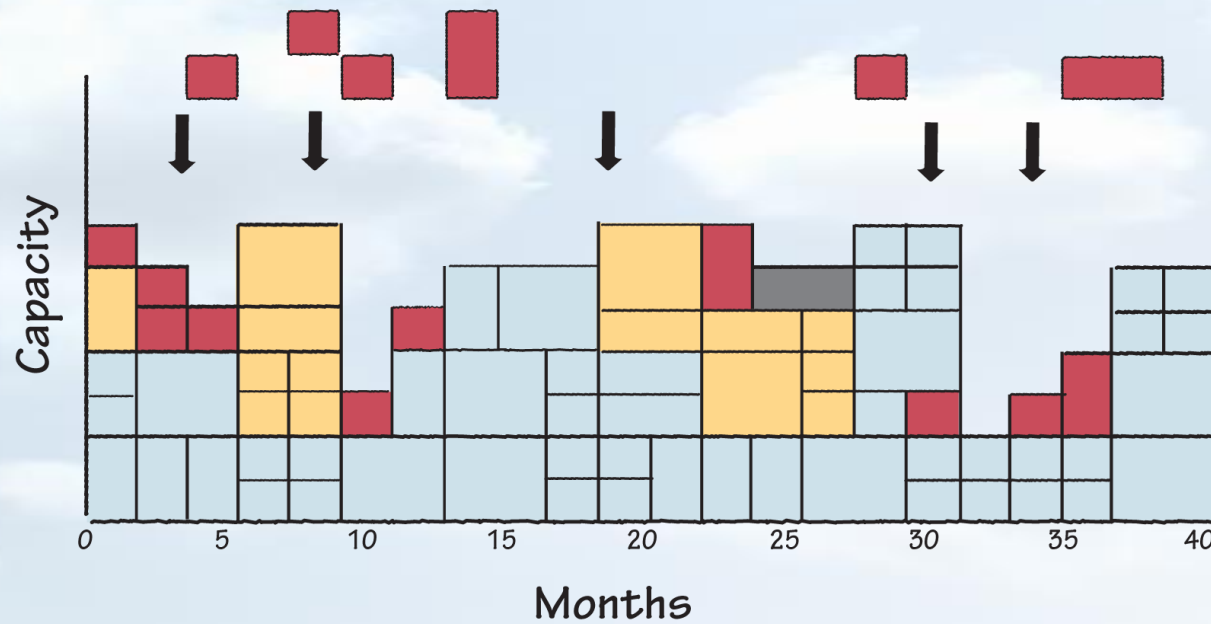


Large blocks are hard to fit.
Split large blocks into smaller pieces.



Tetris Principle

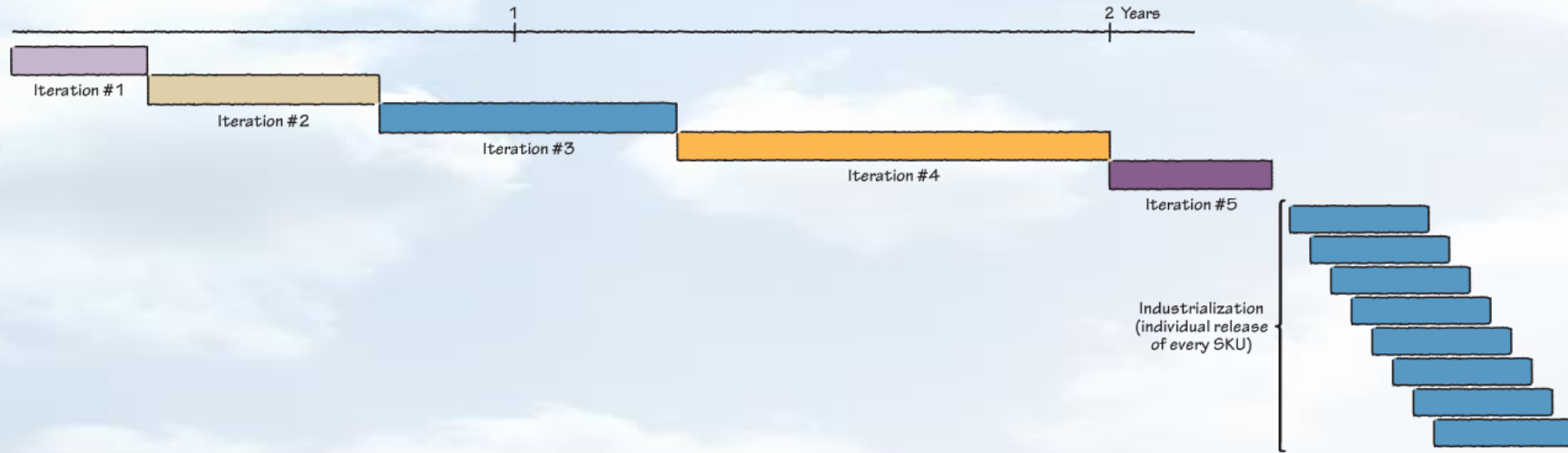
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Split large blocks into smaller pieces.



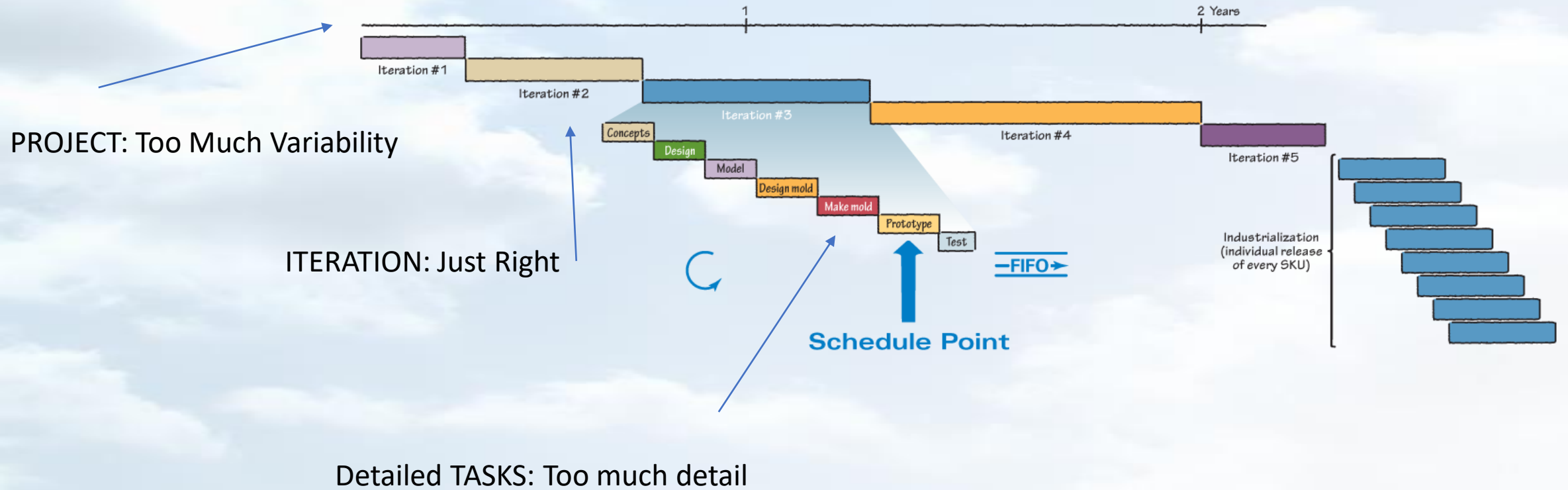
Short Cycles

- Are easier to schedule
- Allow better risk management
- Create knowledge faster

Goodyear Iterations



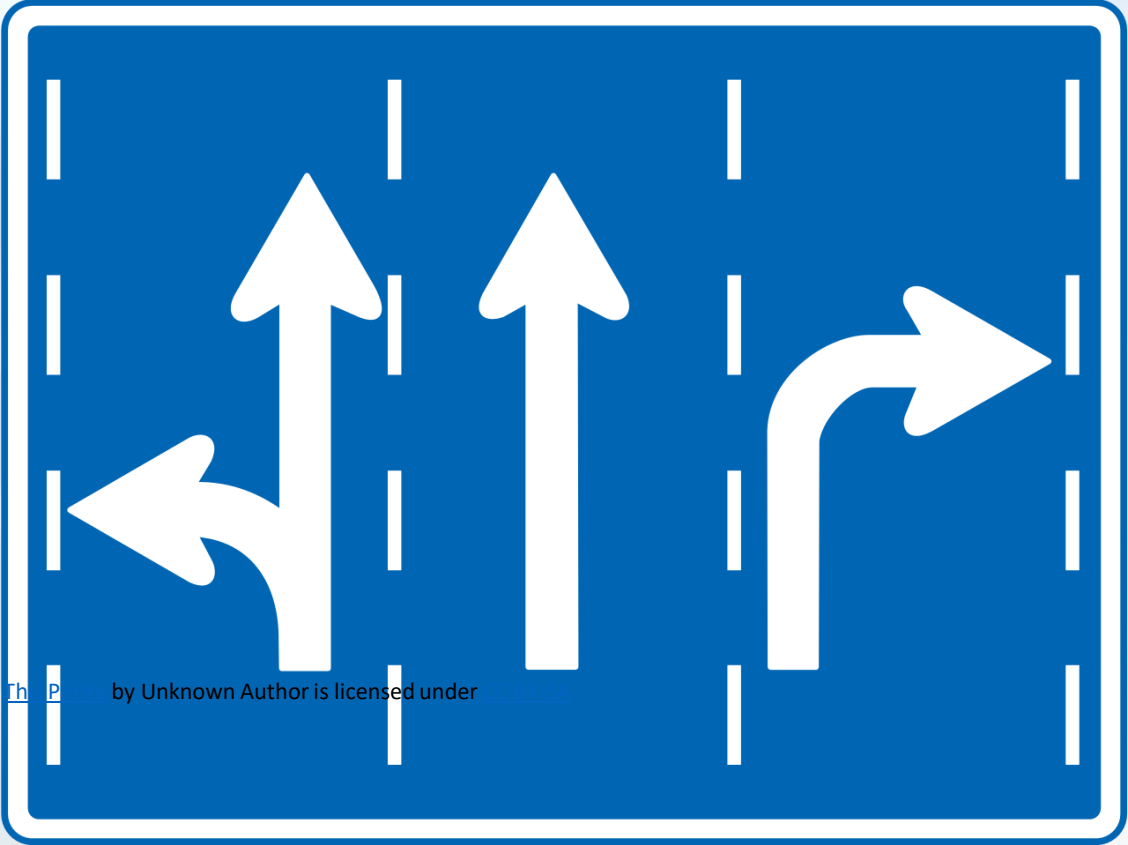
Goodyear Iterations



Stay the course



Pivot



~~Freeze~~

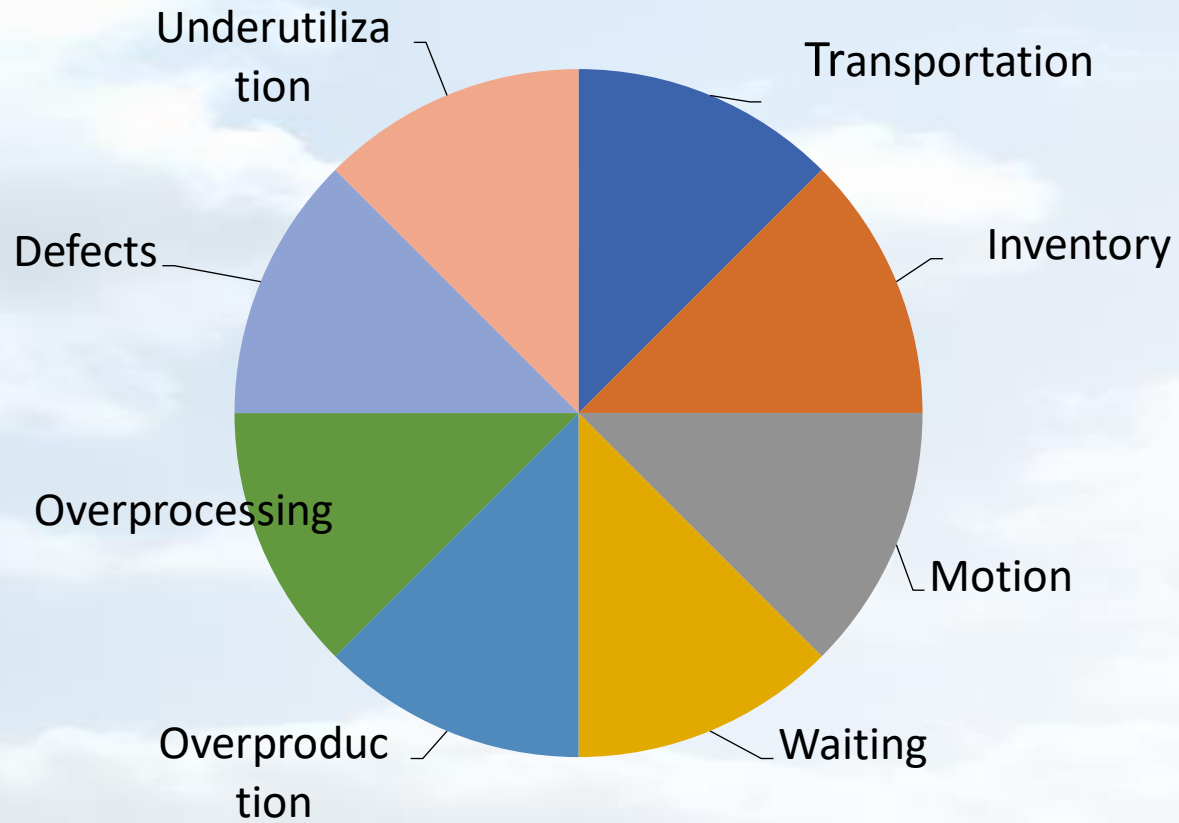


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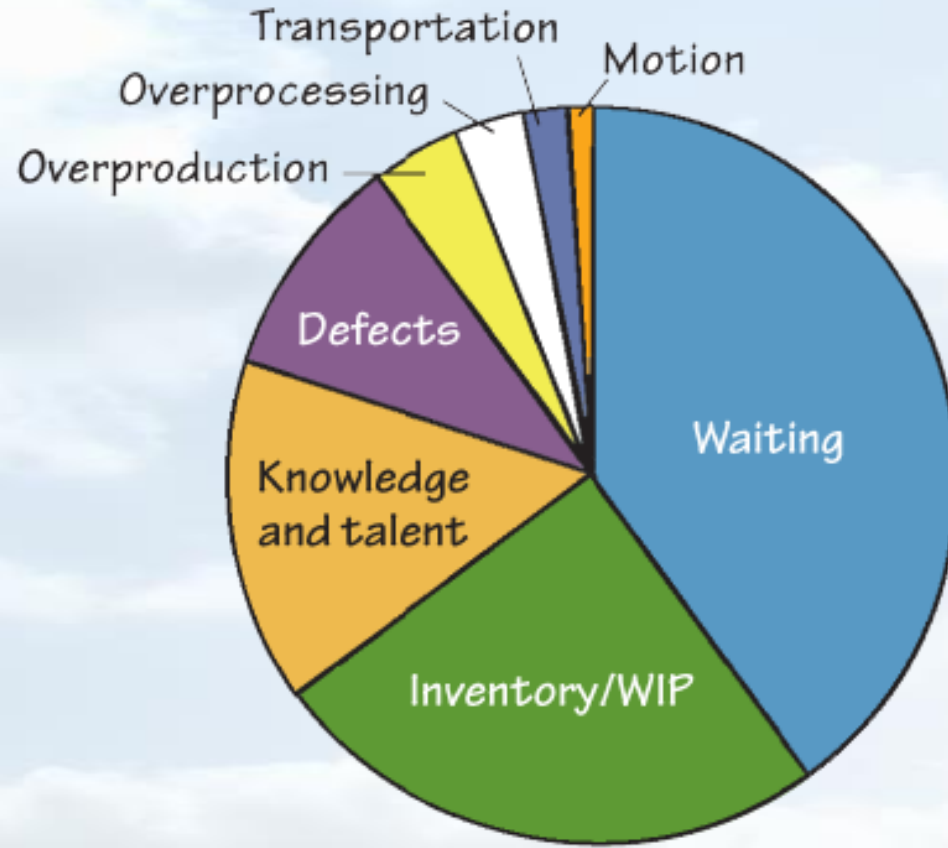
Operational

- NO Waste
- Financial Management
- Visual Management
- Late start
- Fast is better than slow - Manage for flow and speed
- Resource planning
- Concurrent work
- Standards
- Resource utilization

Waste



Waste



Waste

- What is more expensive?
 - The project waits
 - A resource waits

Project Funding

- Traditional
 - Not project specific – comes out of a yearly functional budget
 - Discretionary
 - Project funding (military)
- Lean
 - Budget is MANAGED by PM's
 - **Allocated in small pieces**
 - Yearly budget is based on PROJECTS



Visual Management



10 Second Rule



10 sec rule

- Notice fast
- Address immediately
- Crossfunctional
- Problem solve if needed

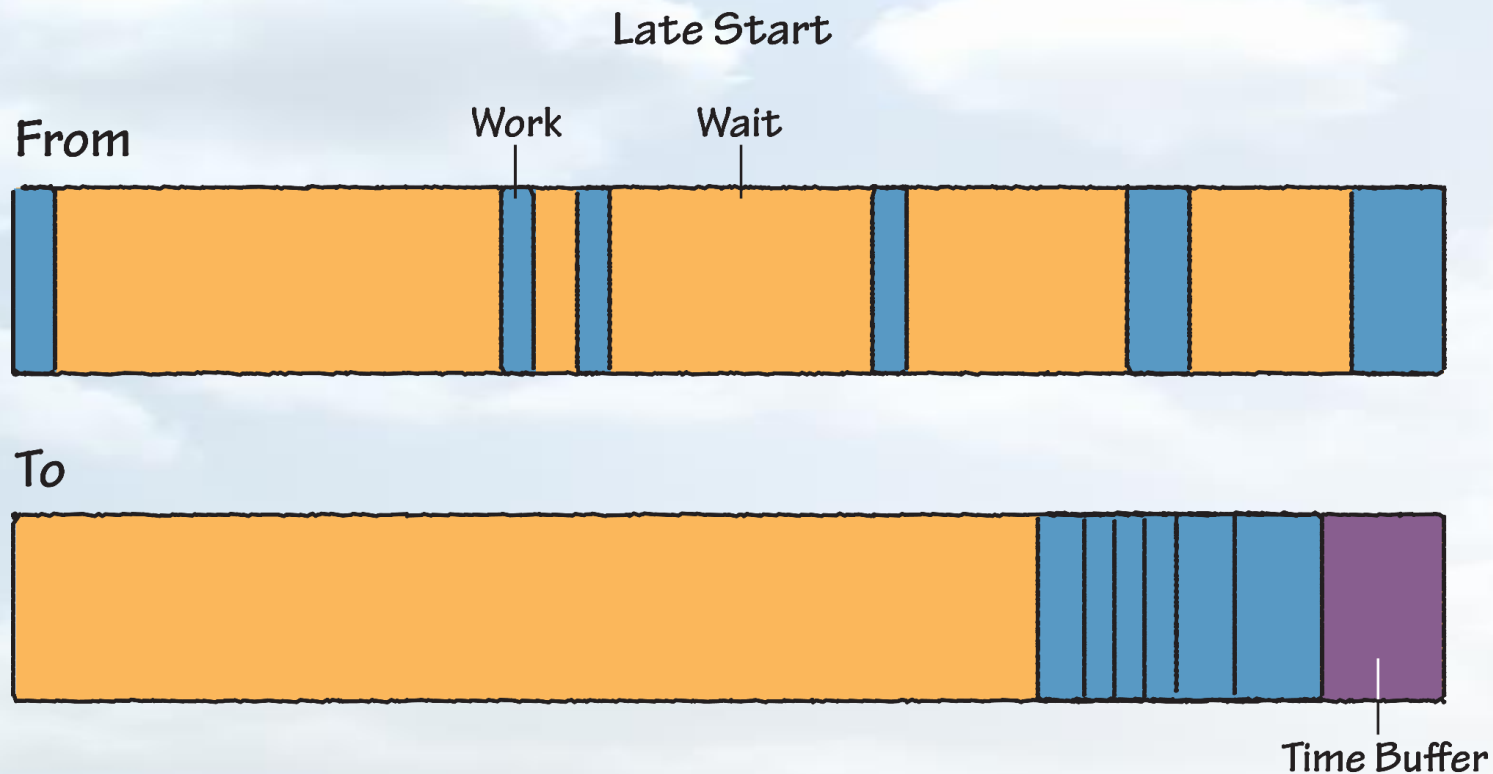


Visual Management

- Catch problems EARLY and COLLABORATIVELY
- Fix problems fast – exponential effect
- AND see the whole picture

Late Start

Every iteration is started as late as possible but with enough time to finish, including a small buffer to account for variability



WHY Late Start

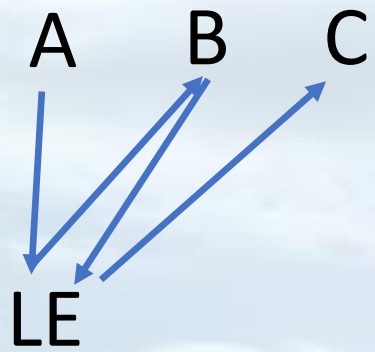
- Know more - Latest technology and opportunities
- Keep options open
- Manage changes
- Dealing with engineers (Parkinson Principle)
- Investment / cash flow

Speed

- Good PM is #1 on my list
- Little's law – multitasking
- Schedule to capacity
- Visualize resources
- TOC
- Overlapping Activities
- Standard Work

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

LEAN PROJECT MANAGEMENT



Little's Law







$$\text{Cycle Time} = \frac{\text{Work in Progress}}{\text{Throughput}}$$

What is more expensive?

TOC Principles

- Identify Bottleneck – critical path (Identify)
- Remove constraints (waste) from critical path (Exploit)
- Support the critical path – make sure nothing has to wait for non critical path activities (Subordinate)
- Add resources to the critical path as needed – based on economic considerations (Elevate)
- Notice when the critical path changes

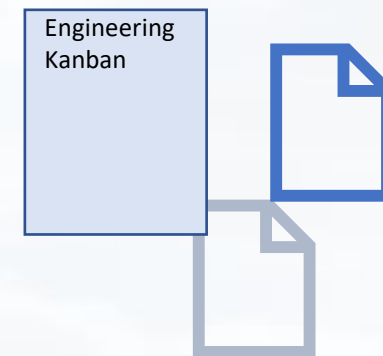
Engineer Assignment Board

| Engineer | Amanda | Jim | Karl |
|-----------|---|--|---|
| OVERDUE | Engineering Kanban  | | |
| NEXT WEEK |  | Engineering Kanban | |
| 2 WEEKS | |  | Engineering Kanban |
| FUTURE |  |  | Engineering Kanban  |

FILLERS



DONE



Managing People





Happy AND Productive People

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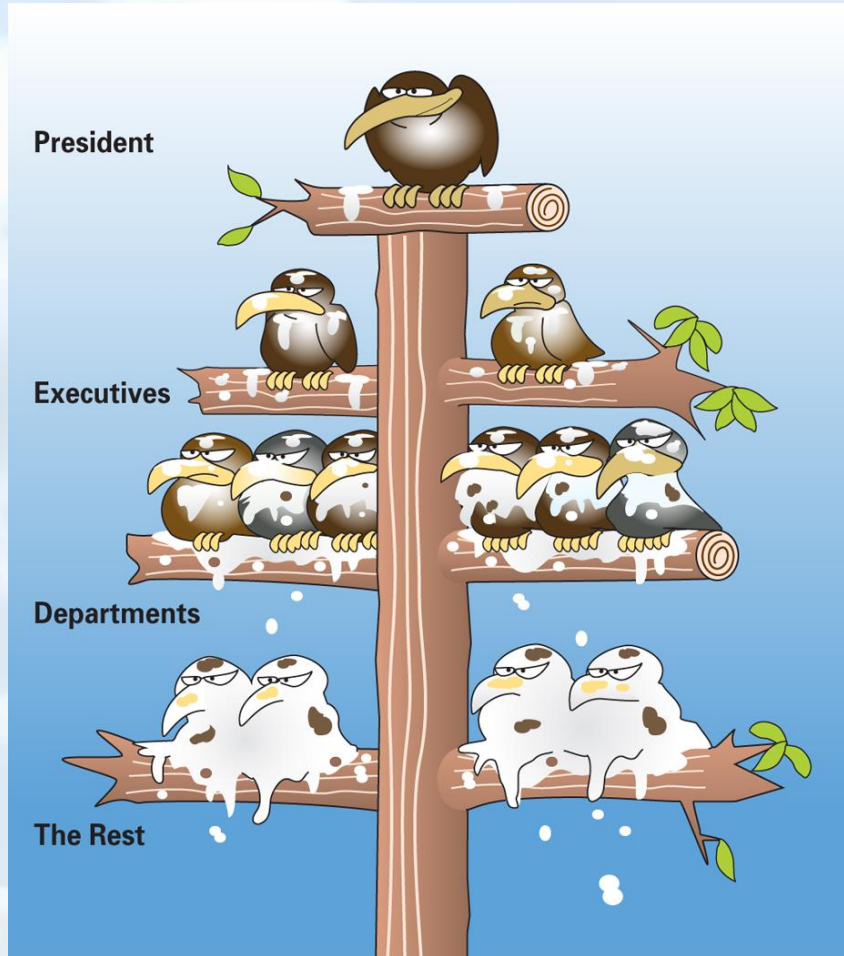
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Who is the BOSS

- Whoever holds the paperwork
- Who tells us what to do?
- The customer
- Can we make everybody happy?

Leadership

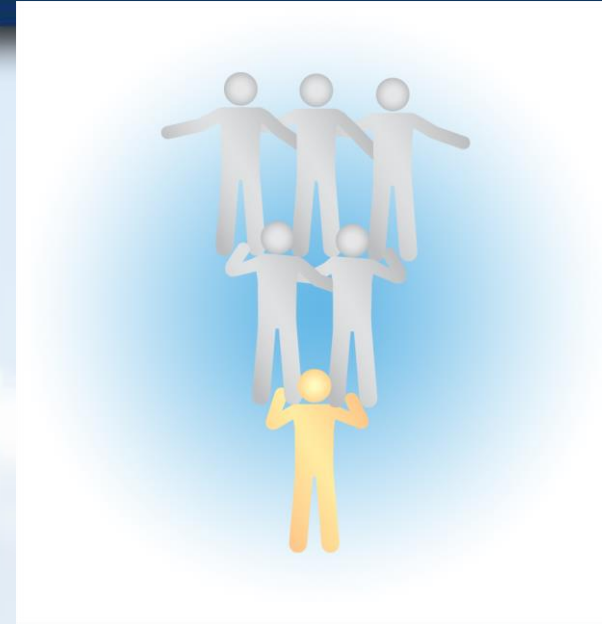
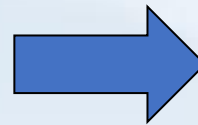
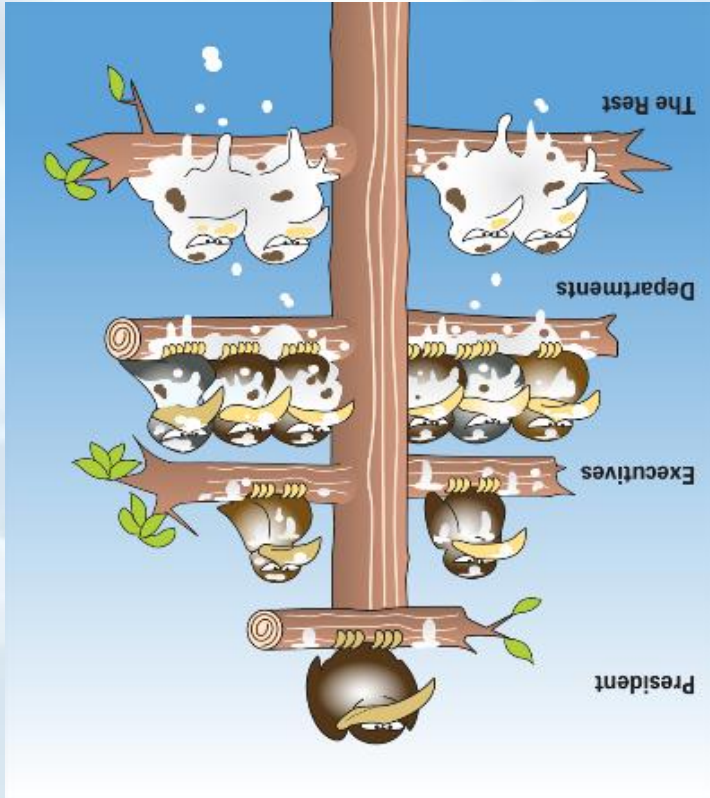


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Lean Leadership



Leadership Transformation

Helping People to be successful

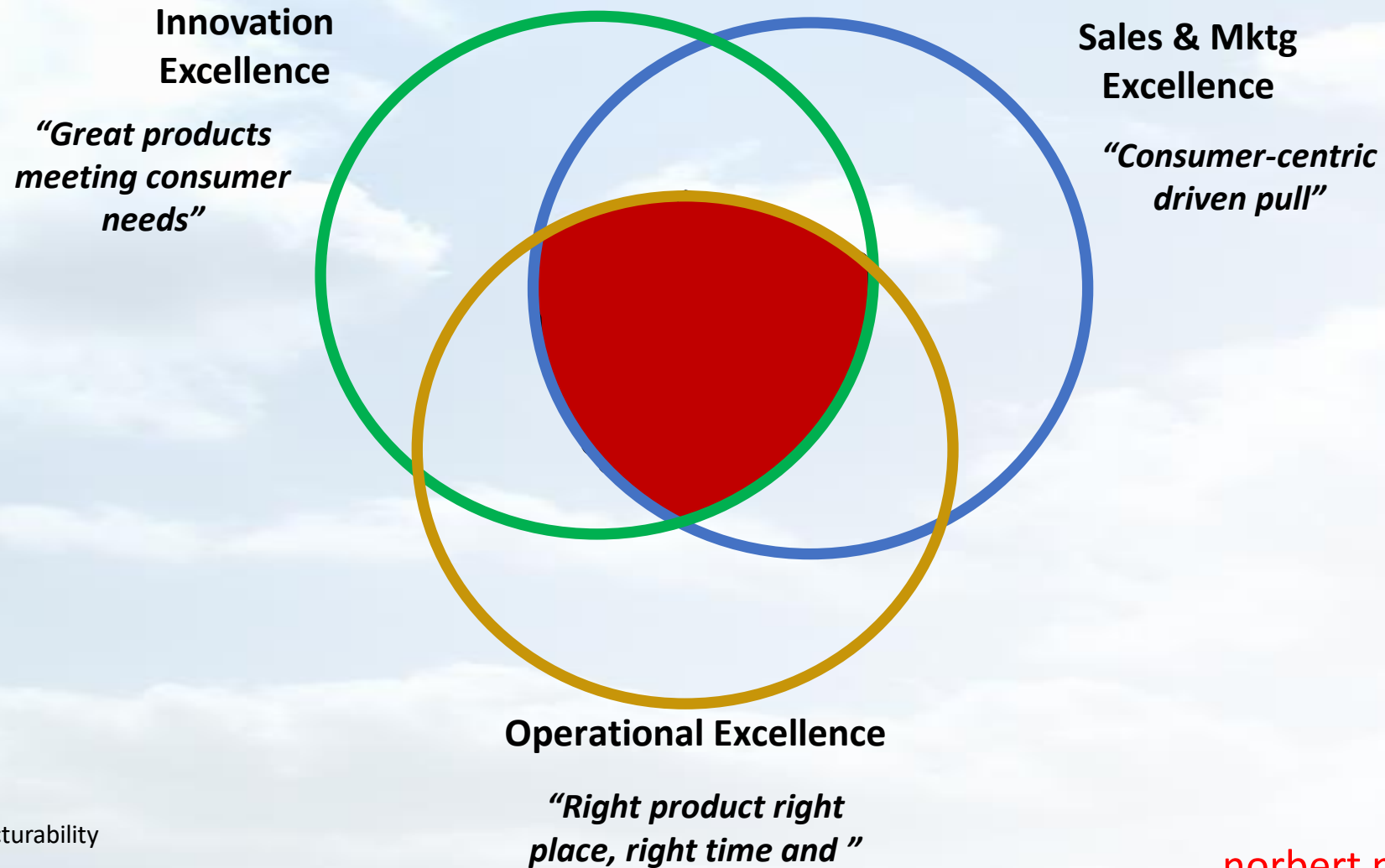


Tell people what to do

Subjects

- Collaboration
- Respect
- Humility
- Sponsor
- Getting the best people on the team
- The lean leader
- Dirty Laundry - Focus on the process – not the people + reflection
- Managing Resistance
- Engaging People
- Roles
- Teams of Empowered Experts
- Self managed Teams

Winning at the Intersections



Design for manufacturability

Collaboration vs Cooperation

- Happy Team
- Goodyear examples
- Customer happy or employees happy?
- Easy way out
- Who is the competitor – teams fighting each other

The camel and the horse

- The Taurus Story – Sobek – Good conflict makes good cars
- Why do we compromise (cooperation – happy employees)
- Goodyear Engineering Story – survey chief engineer

Solution

- We all work for the customer and stakeholders
- Honest about the customer
- Proper reward systems
- Work together from the beginning
- Everybody has skin in the game

RESPECT

- People come to work to do a good job
- People come to work to do a good job
- If they cannot, look at process, training, qualification, equipment ...
- Leadership helps the people be successful (ALL)
- People respect each other

Hard on the Process, Easy on the People

Evolution of a Servant Leader



We pay you to solve your problems

Responsible?



Here is the solution – go do it



**I ask you questions and coach you towards MY solution
>> A3 cookie trail**

Evolution of a Servant Leader

92



I coach you towards finding your own solution



Let's figure this out together



I agree with your suggestion. You are responsible - keep me informed and I will support you

Humble Coaching

- The leader as a player/coach
- Good coaching includes allowing people to learn through their own experience – allowing them to learn from their mistakes

“Let’s run an experiment”



Sponsor

- Goodyear experience
- Role of Sponsor
 - Help
 - Educate/coach
 - Ask the right questions
 - Remove obstacles
 - Use his/her influence

PM Org Chart

Customer

Team

Project Manager

Leadership


Sponsor

Role of a Leaders in a Lean Organization

- Create the environment, remove obstacles, set direction
- Help the people be successful
- Develop leaders

With Humility

Without Use of Power




A Good Lean Project Manager

- Leads with respect and humility
- Aligns the team behind the agreed upon goals
- Removes roadblocks and helps team members be successful
- Engages/rewards team members
- Helps the team be successful
- Develops team members

Becoming a Better (lean) Project Manager

- Make sure your organization is right for PM
- LEARN Project Management
- Follow the applicable principles of Lean PM
- Learn to manage the people
- Practice Continuous Improvement (personal and with the team)
- Use a coach/mentor



Are a consequence of

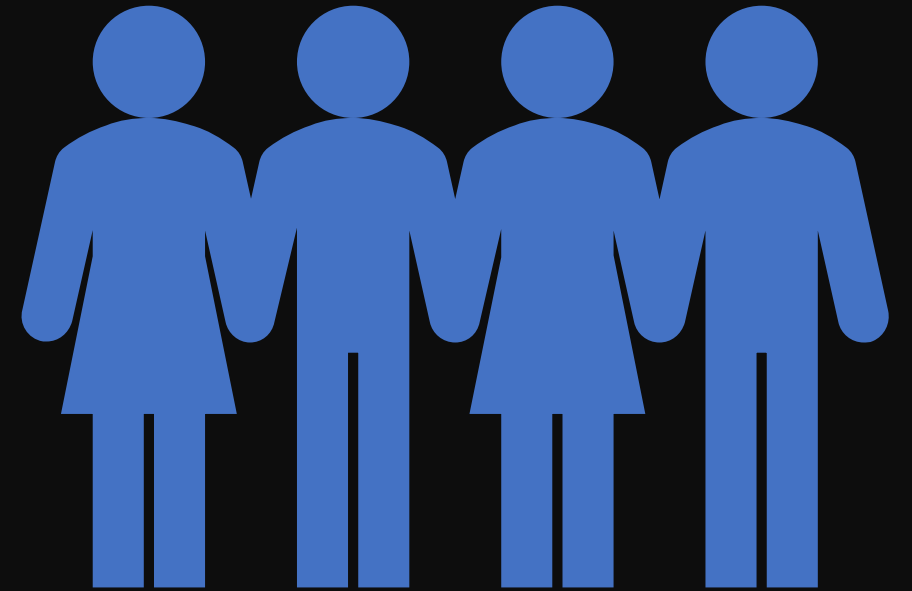
- Good people (including leadership)
- A good process
- A good Project Manager

Back To Your Problem



**What Will You Do
Next Week?**

Your New Friend



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Contact Information

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If everything seems under control, you're just not going fast enough.

— Mario Andretti



LEAN-DRIVEN INNOVATION

POWERING PRODUCT DEVELOPMENT AT THE
GOODYEAR TIRE & RUBBER COMPANY

NORBERT MAJERUS

Foreword by James Morgan and Durward Sobek

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