



Title: Agile & COSMIC A Good Integration!

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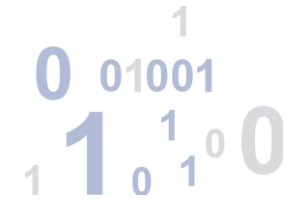
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Stakeholders' questions



3

With a Poorly Controlled Process and Inadequate Measurement...



Quality



4

And Have We Forgotten...

+

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Business Value?

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So What Should We Do?



Get feedback
more often

Reajust our
plan during
the project

Align on
Business
Value

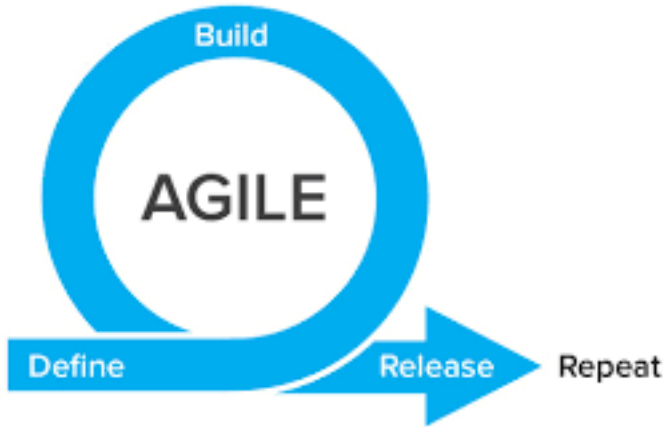
Reduce waste

Simplify
management to
reduce cost

Use adequate
measurement!

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Agile



What is it?

An empirical approach allowing:

- Test in the field
- Adapt ... then update the scope
- Build the solution in successive stages

Defined by the Agile Manifesto:

- 4 values & 12 PRINCIPLES

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Agile Principles



**Shorter Timescale &
Deliver Frequently**

**Business Value First:
Early & Continuous
Delivery**

**Changing
Requirements are
WELCOME**

**Build Projects
around
MOTIVATED
Individuals**

**Business people &
Developers Work
Together DAILY**

Constant Pace

**Measure of progress =
Working Software**

**Face-to-Face is Most
Efficient & Effective**

**CONTINUOUS ATTENTION TO
TECHNICAL EXCELLENCE**

**Simplicity
(minimize
waste)**

**Reflect &
Improve**

**Self-Organising Teams:
Provide Transparency!**

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To Be or Not To Be?



- We don't "DO Agile" → We "ARE Agile"
- Those 12 Principles are NOT items on a menu to pick and choose from
→ You ARE Agile when you apply them ALL!



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General Project Measurement

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What Do We Need to Know?

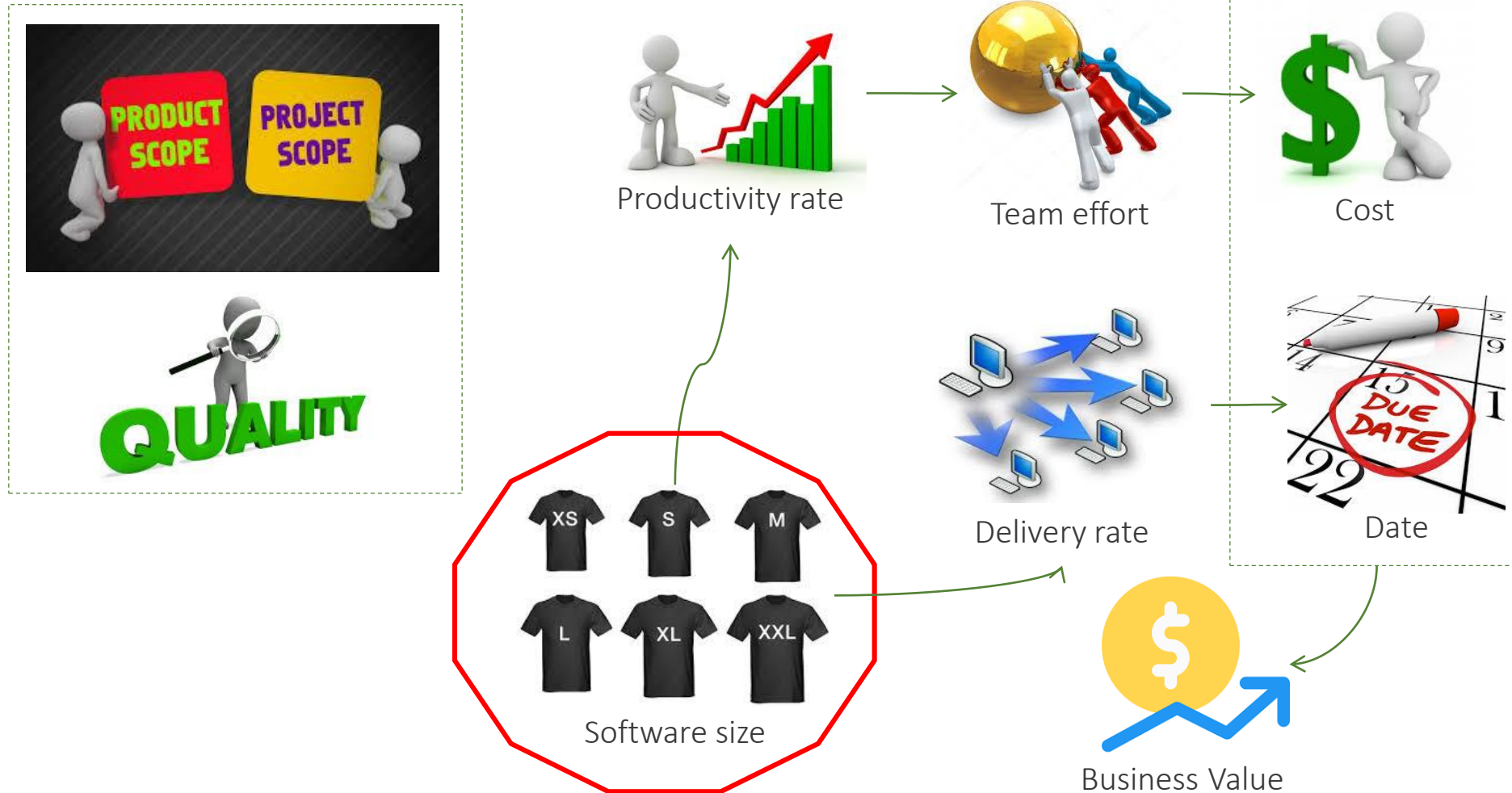




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Project Measurement

+

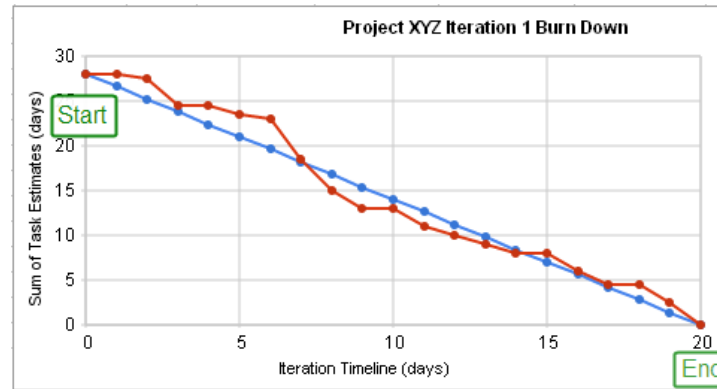


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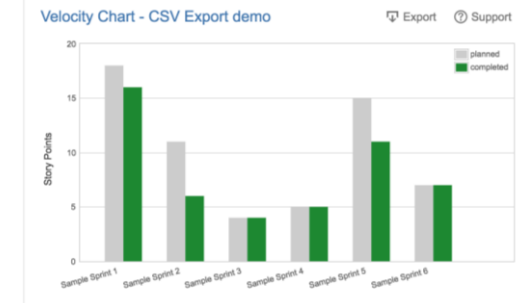
Agile Measurement Techniques



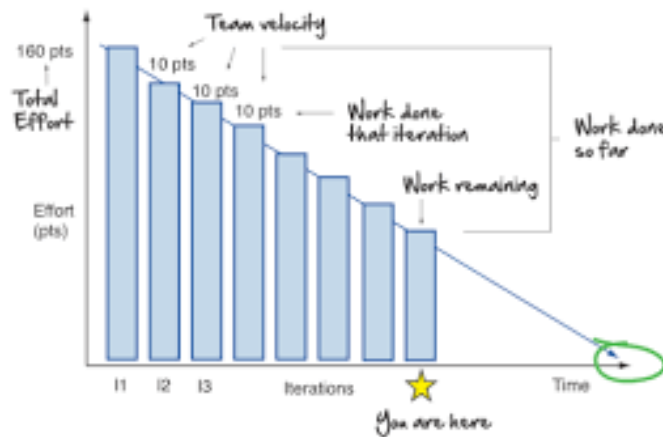
Poker Planning ©



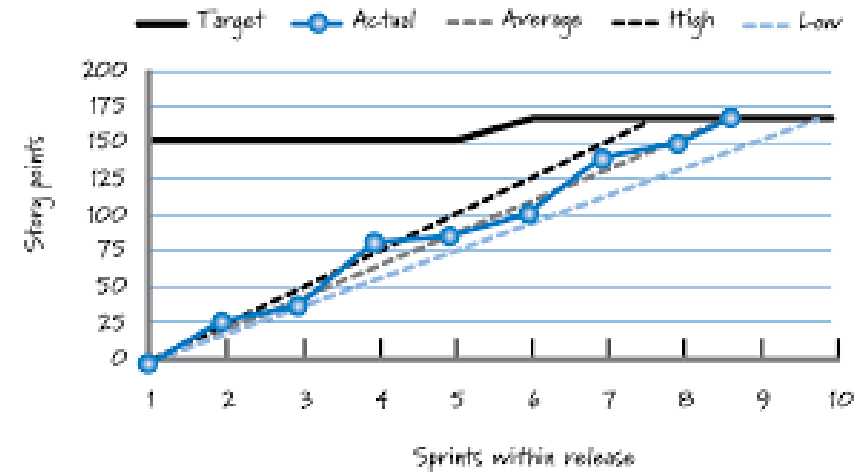
Sprint Burndown



Velocity



Project Burndown



Burn-up chart

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User Story Points



- A largely approximate level of perceived effort
→ IT'S NOT A SIZE!
- Consensus by team members, taking into account:
 - Complexity
 - Risks
 - Level of required testing
 - And other factors influencing effort
- Estimation by analogy using the Poker Planning Game ©
- Scale often adapted from the Fibonacci Sequence



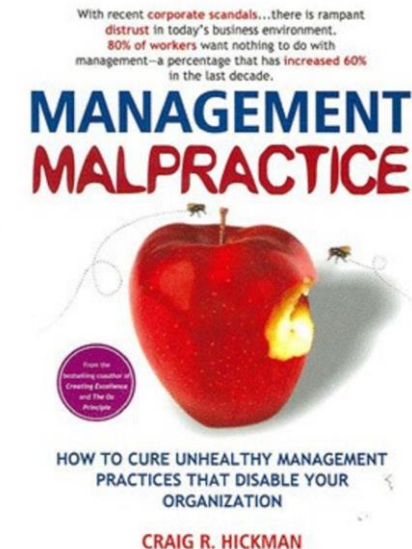
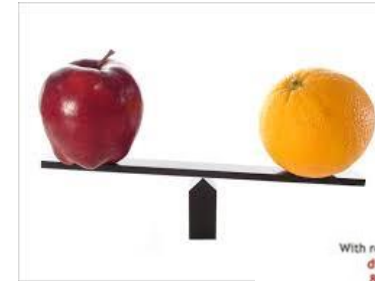
0	1/2	1	2	3	5
8	13	20	40	100	?

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Issues with User Story Points



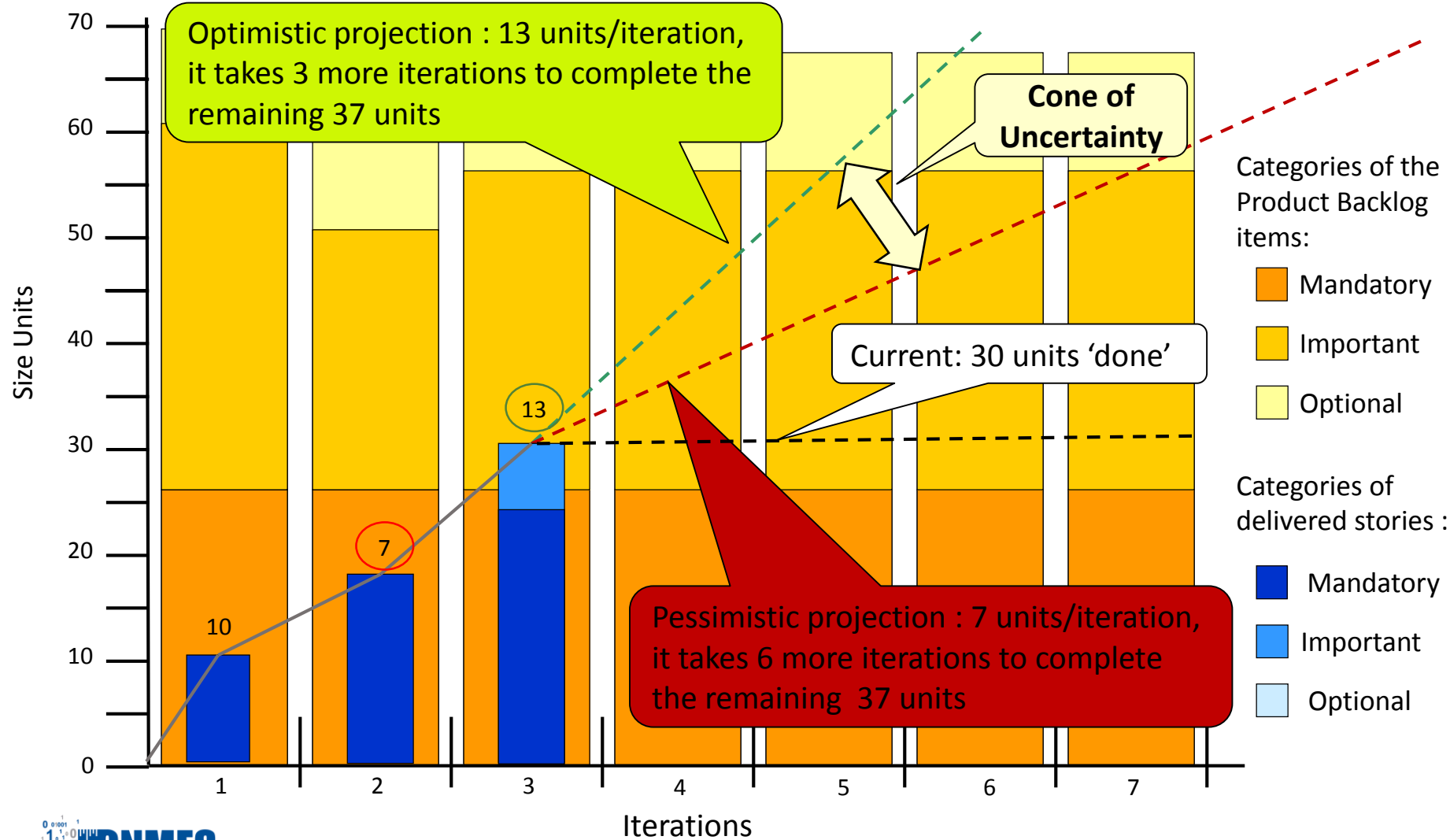
- Subjective
- Meaningful only to this team with this project:
 - Incomparable with other teams
 - Incomparable with other projects
- Then ... these “largely approximate level of perceived effort” are used by managers as if they were values on a ratio scale
 - And this is considered as a “Management Malpractice”!





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The Sunset Graph Technique

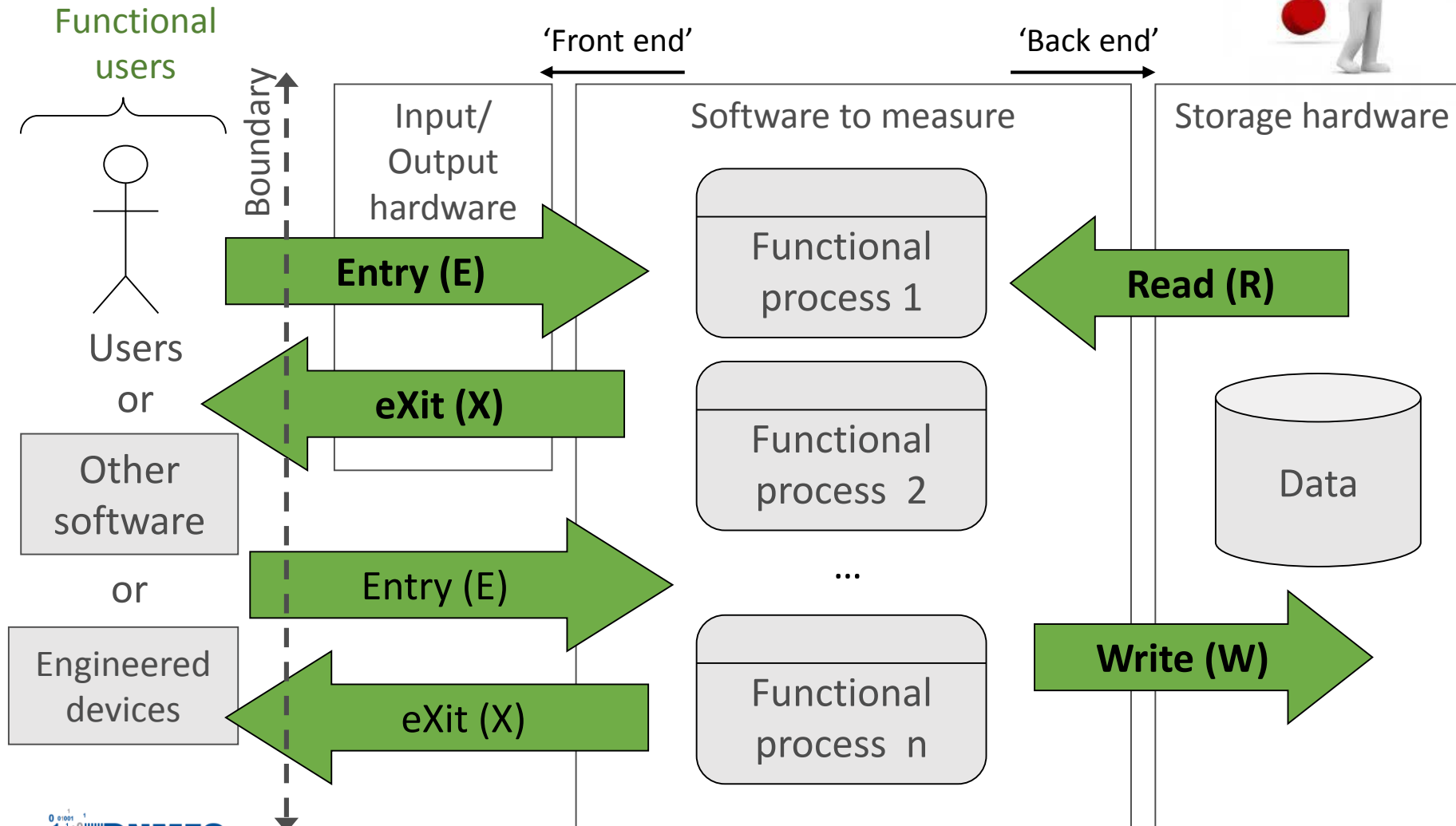


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So, What Measure to Use?



The COSMIC Method



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Industry Example



User Story Points versus COSMIC Function Points

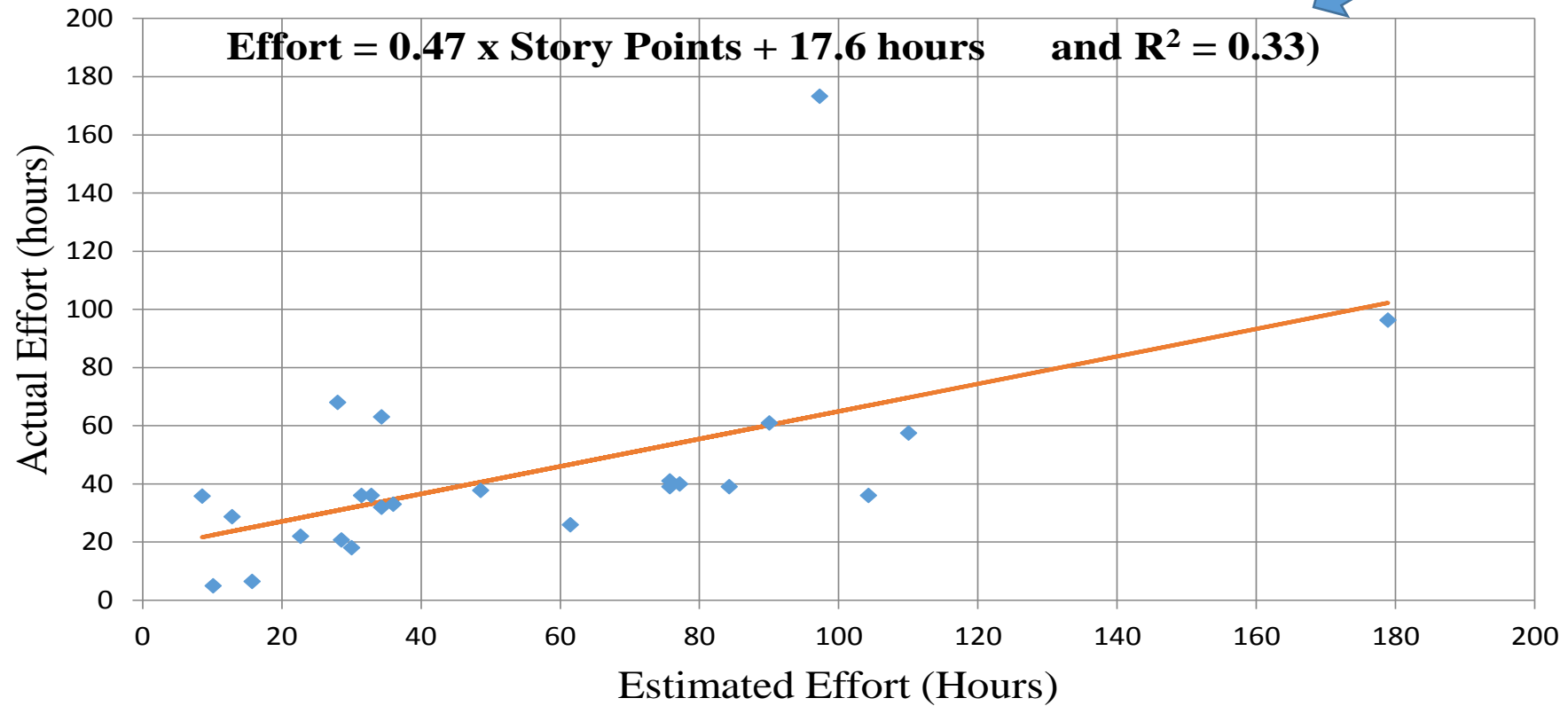
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Industry Data – Example: Security & surveillance software

- Scrum method
- Teams estimate tasks within each iteration in User Story Points
- Measurements of 24 tasks in 9 iterations
 - Each task estimated in User Story Points (USP)
 - Task actual effort recorded
 - Each task also measured in COSMIC Function Points (CFP)
- Ref. 'Effort Estimation with Story Points and COSMIC Function Points - An Industry Case Study',
C. Commeyne, A. Abran, R. Djouab. Obtainable from www.cosmic-sizing.org 'Software Measurement News'. Vol 21,
No. 1, 2016

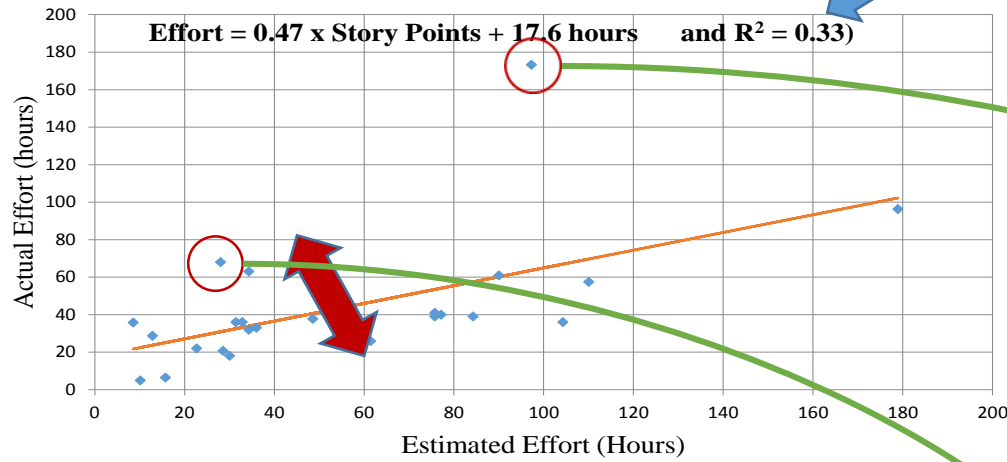
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Industry Data – Example: Security & surveillance software



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Industry Data – Example: Security & surveillance software



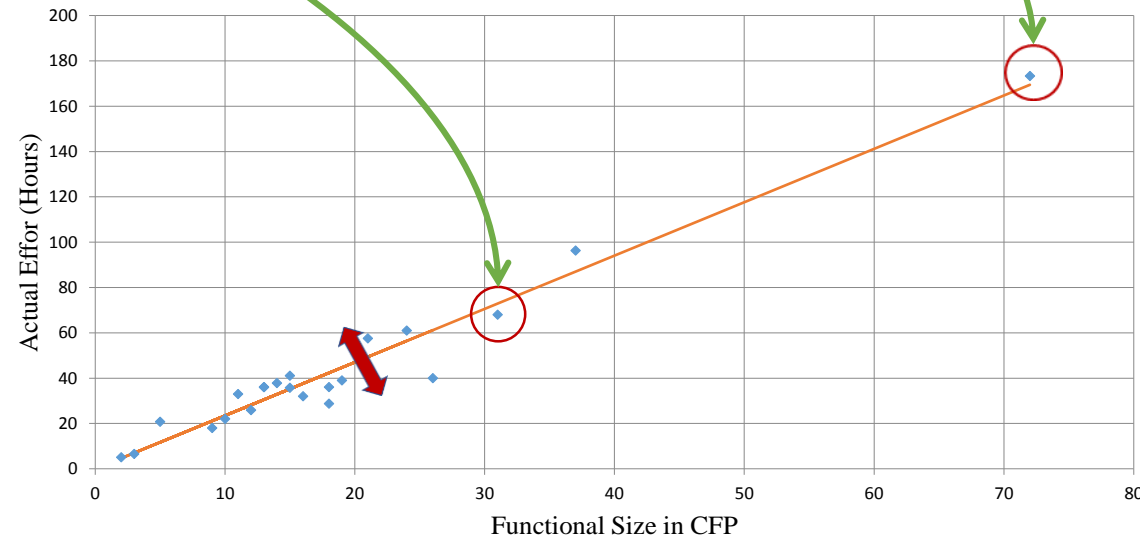
Story Points



COSMIC



$Y = 2.35 \times \text{CFP} - 0.08\text{hrs}$ and $R^2 = 0.977$



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DevOps: Going Beyond Agile



Transient Fashion or Perennial Approach

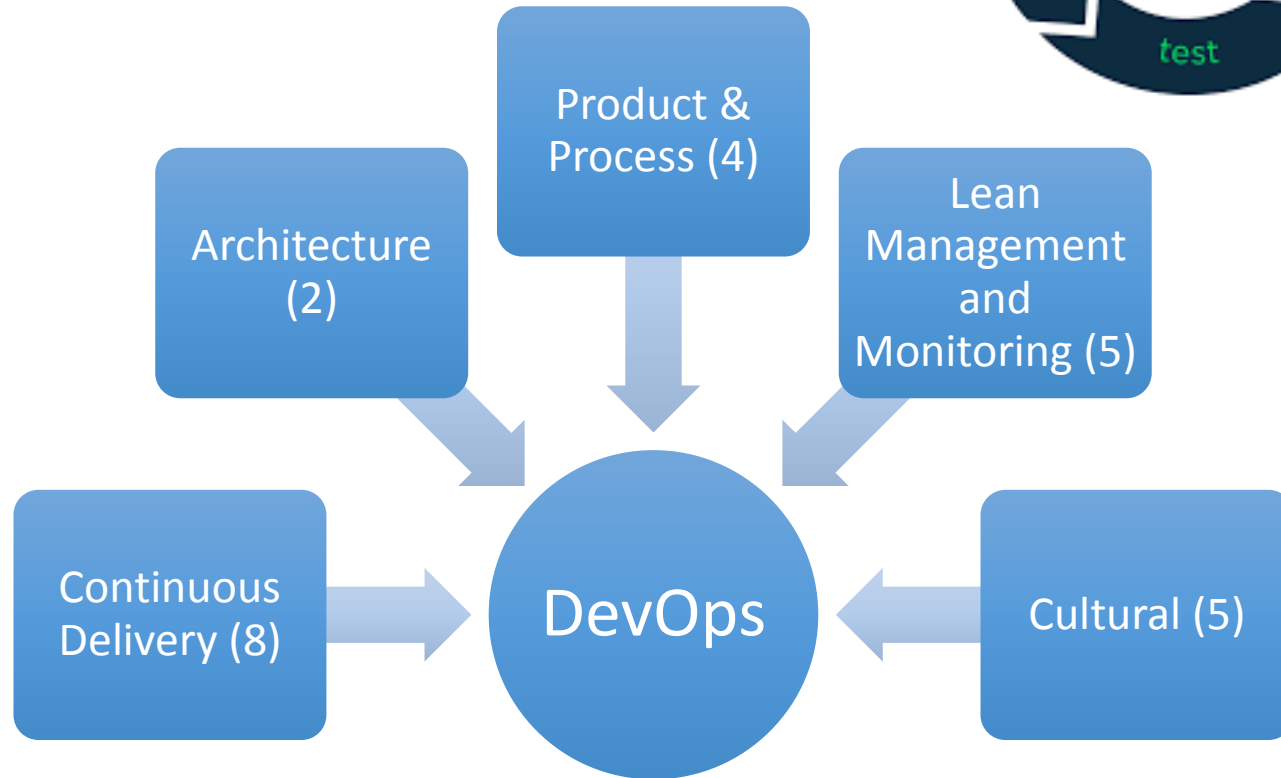
What is DevOps?

Why adopting DevOps?

What are the objective measures in DevOps?

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DevOps: When Agile Technical Excellence is pushed further



Why Adopting DevOps?



Software Delivery Performance drives:

- Organizational performance measures:
 - Profitability
 - Productivity
 - Market share
- Non-commercial measures:
 - Efficiency
 - Effectiveness
 - Customer satisfaction
 - Achieving mission goals



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Software Delivery Performance



Four objective measures defined:

1. Lead Time
2. Deployment Frequency
3. Mean Time To Restore (MTTR)
4. Change Fail Percentage

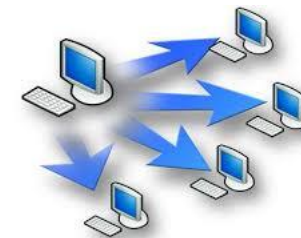


BUT, we still need to obtain project approval from an ESTIMATE, and continue to build and maintain:

- Functional Size
- Effort
- Duration



Productivity rate



Delivery rate

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Conclusion



- Typical Agile measures and measurement techniques are:
 - Insufficient
 - Inadequate
- The Sunset Graph technique has shown a wider view of a project status
- The COSMIC method can help alleviate some measures-related issues
 - Including what is required in a DevOps context





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