

# HybrEEd: Combining Methods for Effective Effort Estimation (E<sup>3</sup>)



Dr. Ingo Elsen T-Systems Systems Integration  
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What Determines Effort?

# Functional Size

Expert Judgement

Function Points

Use Case Points

...



# Non-Functional Requirements

Expert Judgement

Calibration Factors



# Ecosystem



Process

People

Project

# Workplace



1



10

# Programming Languages

Java

28

No real difference!

C++

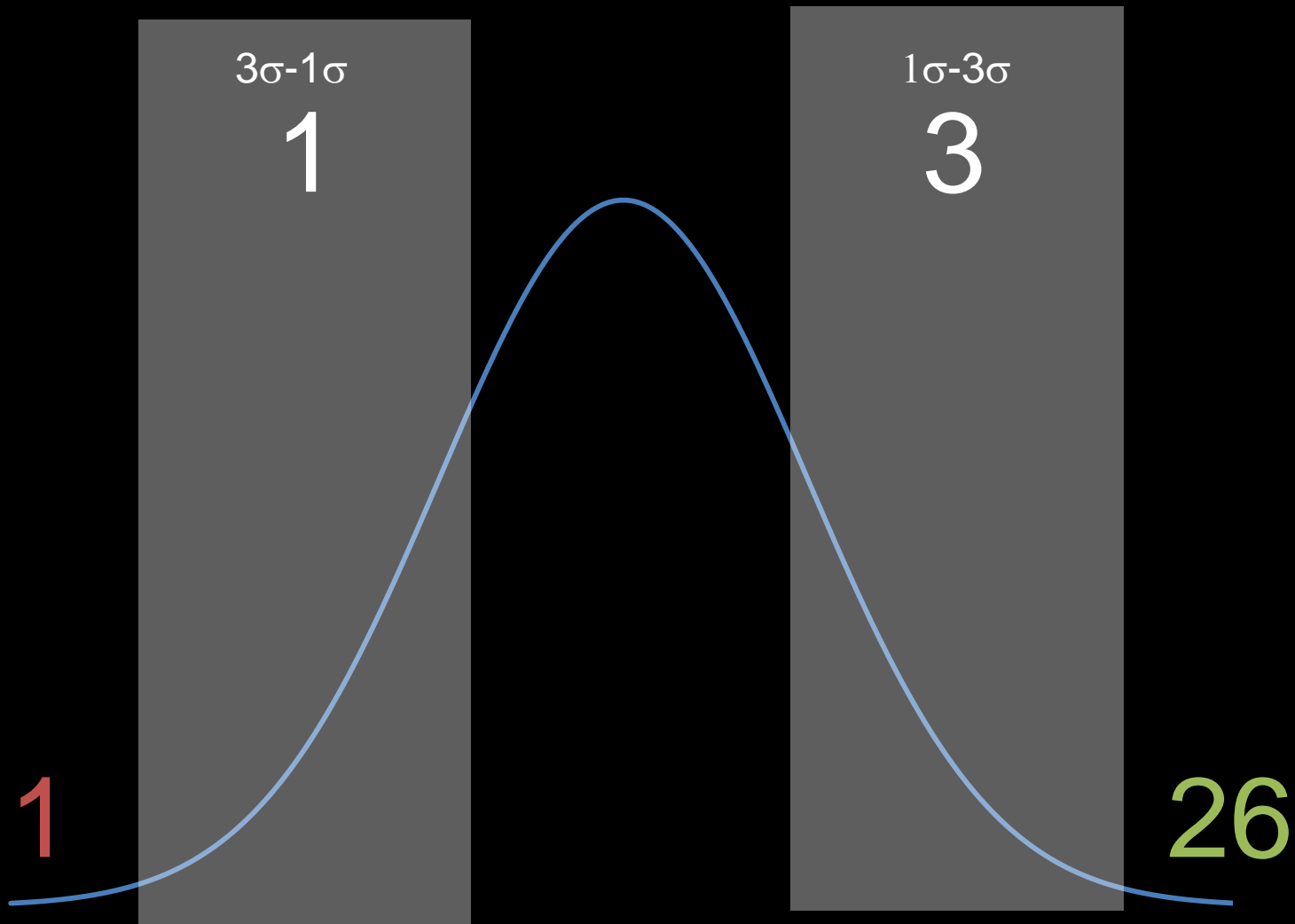
30

# People

1

26

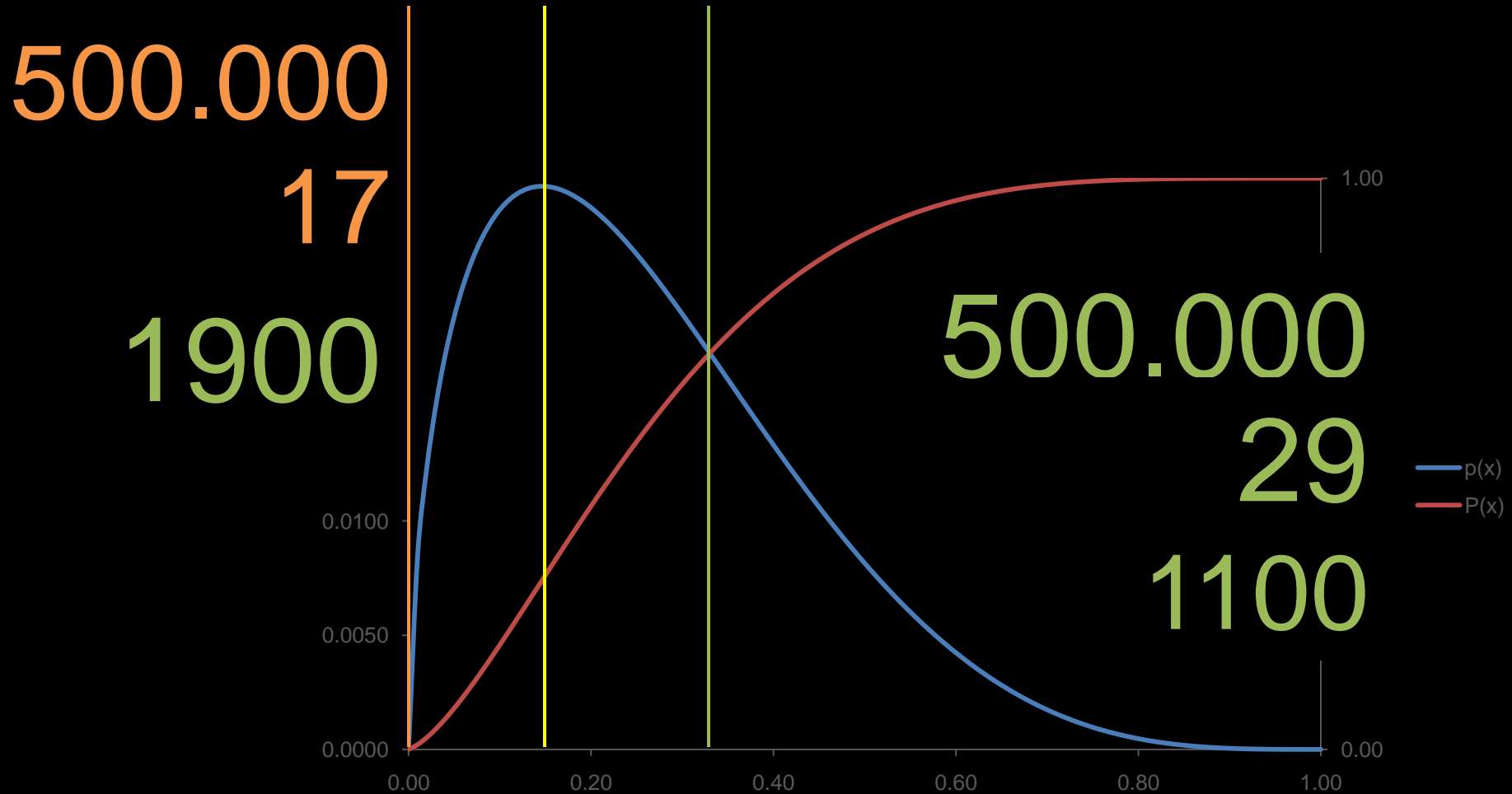




Can you handle all that  
methodless ?



# Planning



2

# Use attribute based estimation methods

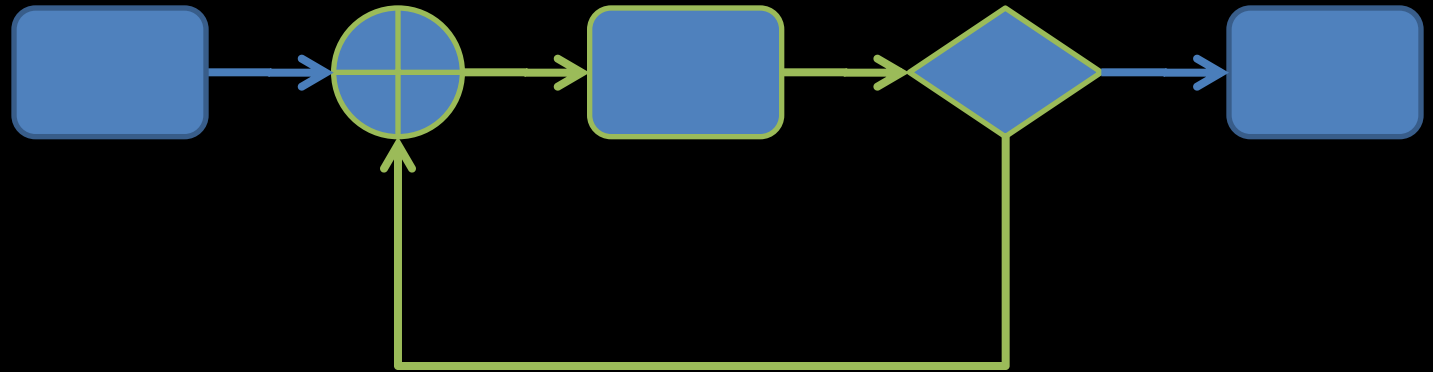
Function Points

Use Case Points

...

3

# Use a feedback loop to handle uncertainties



Build Initial WBS from Requirement Spec with general issues and overall influences

Estimate work packages with functional size method

Select activities with high variance

Refine the activities

[no]

Review estimates with respect to stopping rule

n-functional related WBS elements

Update WBS dictionary with estimation assumptions and compile action plan



thank you