IEEAA

ISBSG
IT Confidence 2016

4° International Conference on
IT Data collection, Analysis and Benchmarking
Los Angeles, CA (USA) – September 7, 2016

#NoEstimates, BUT #YesMeasurements

Why shouldn't agile teams waste their time and effort in estimating

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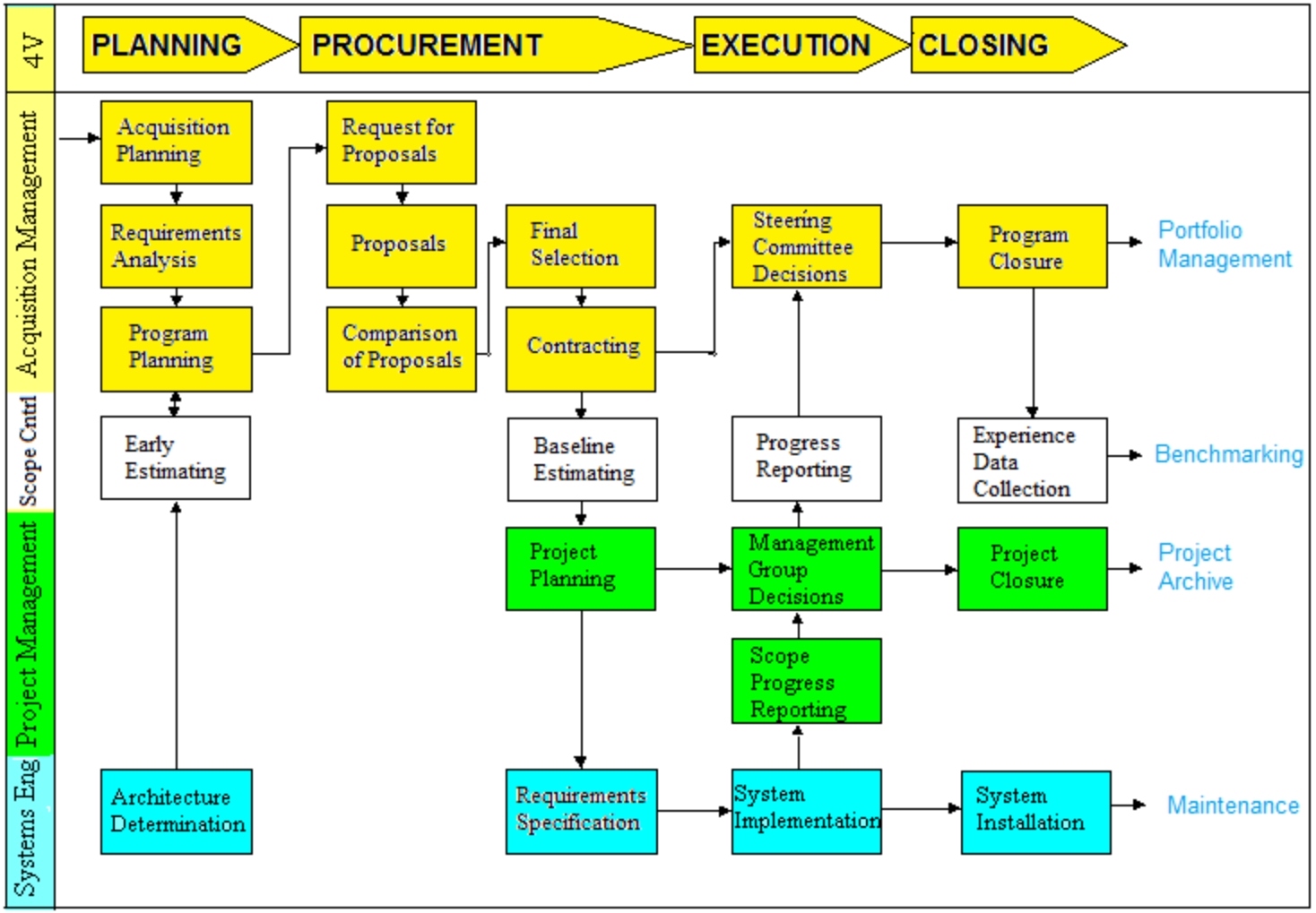
Goals of the presentation

✓**G1.** To discuss about place of estimation in agile development and an IS acquisition framework.

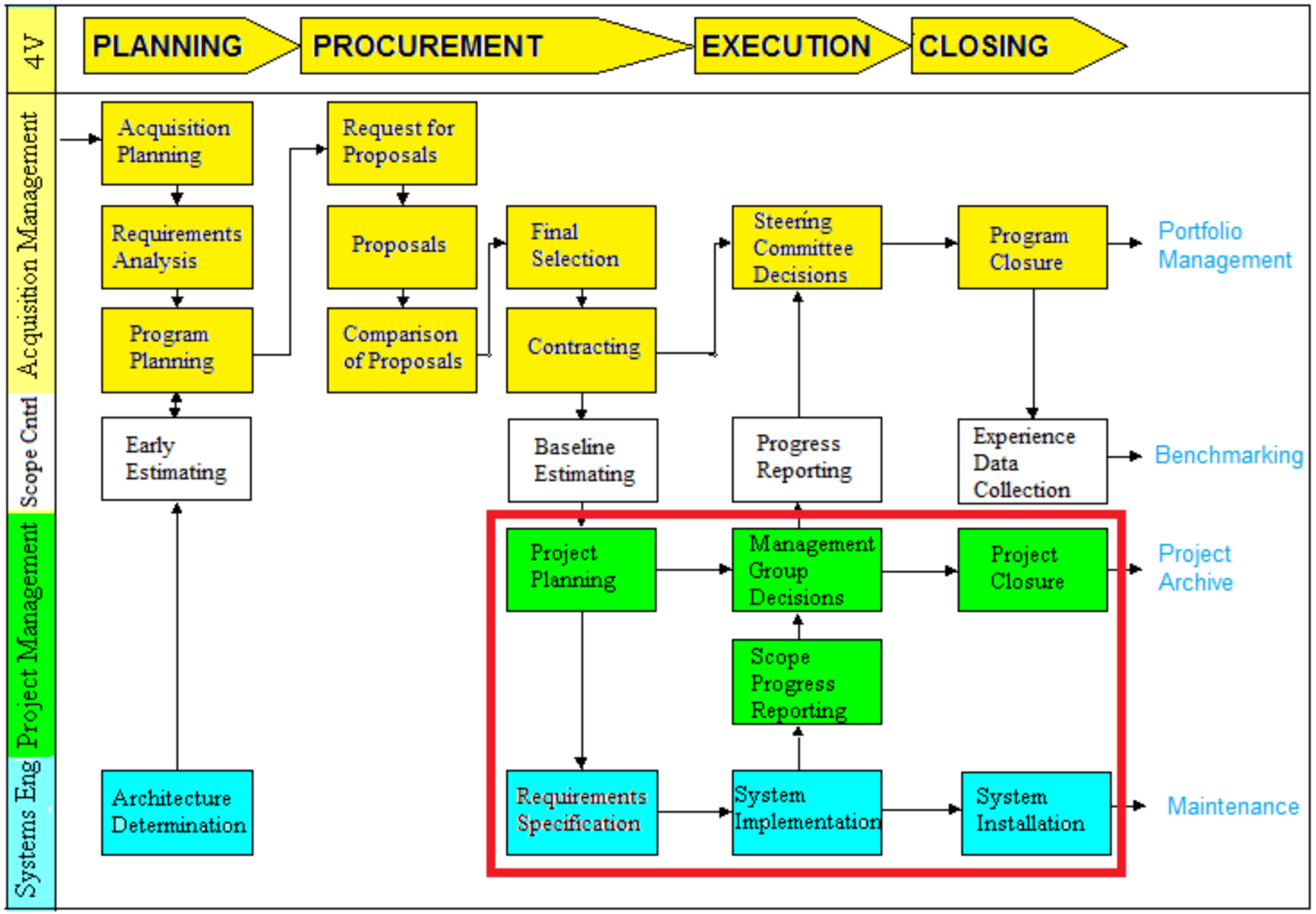
✓**G2.** To help agile developer teams to feel ok to ignore estimates and focus on development tasks; Courage to both developers and product owners to do things differently than in the past.

✓**G3.** To show that #NoEstimates can work in practice, when the Product Owner (team) does its work right.

Overview of IS Aqcuisition Process Model (4V)

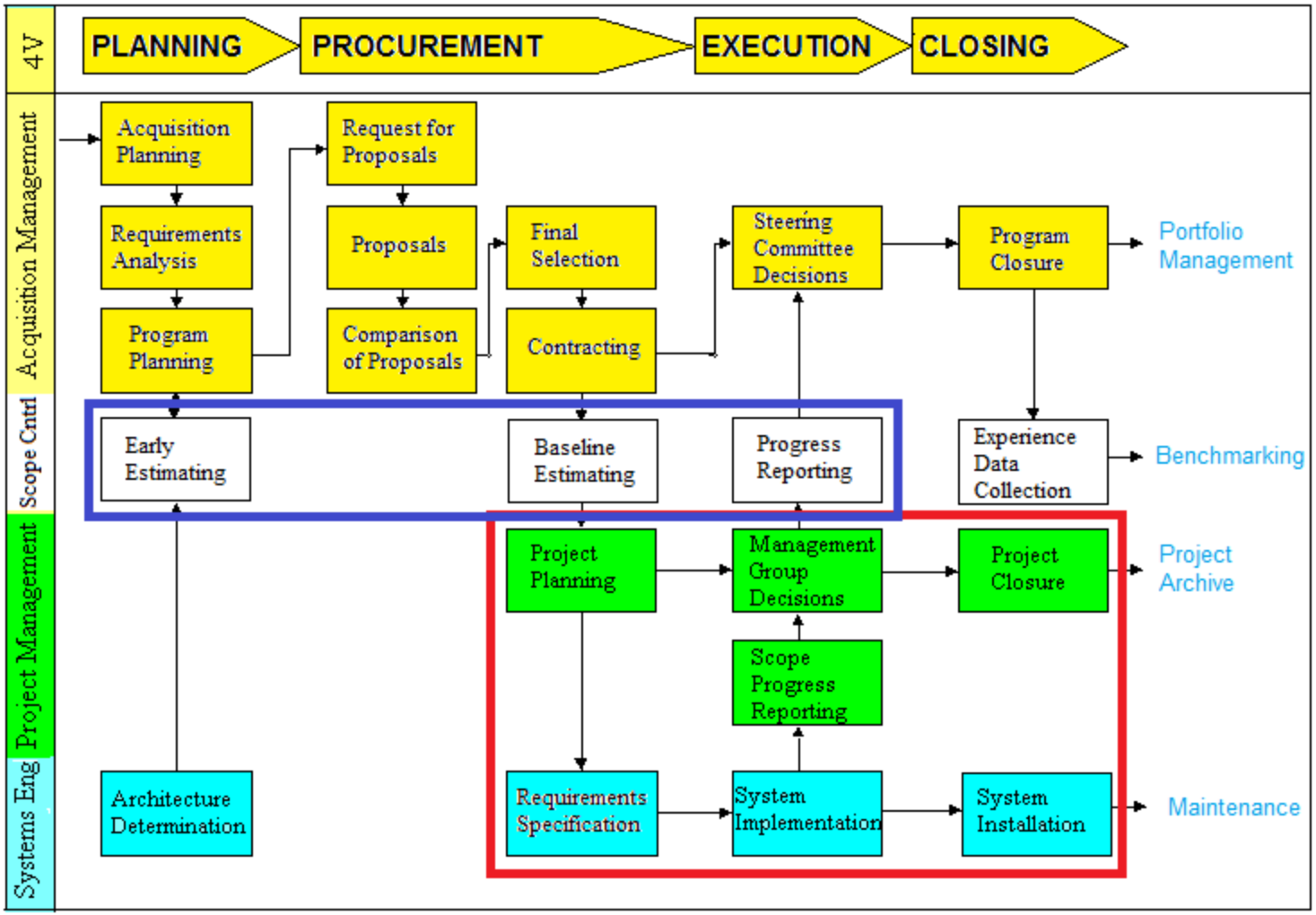


Agile in IS Aqcuisition Process Framework

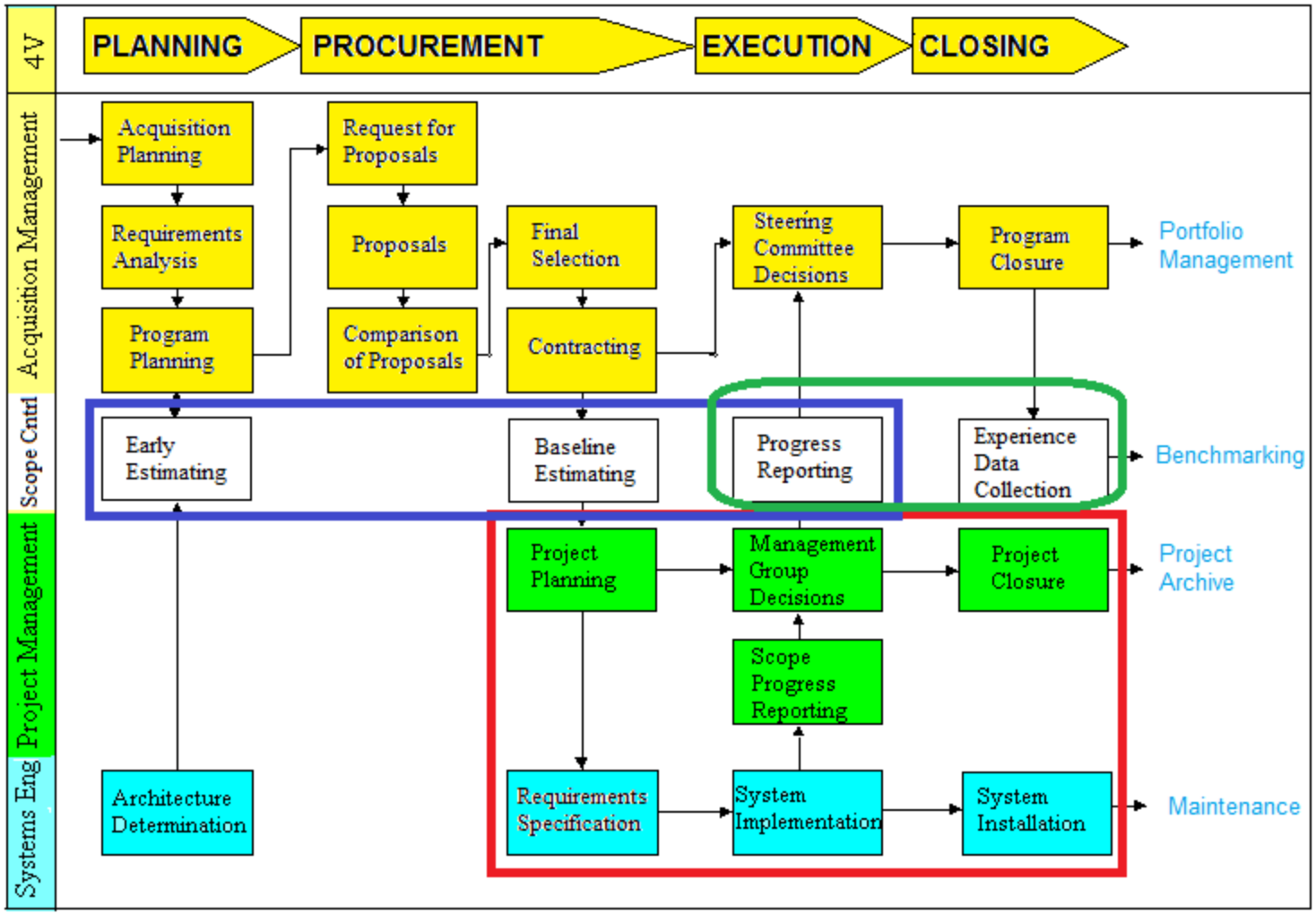


#NoEstimates BUT #YesMeasurement

Estimating in IS Aqcuisition Process Framework



Measurement in IS Aqcuisition Process Framework



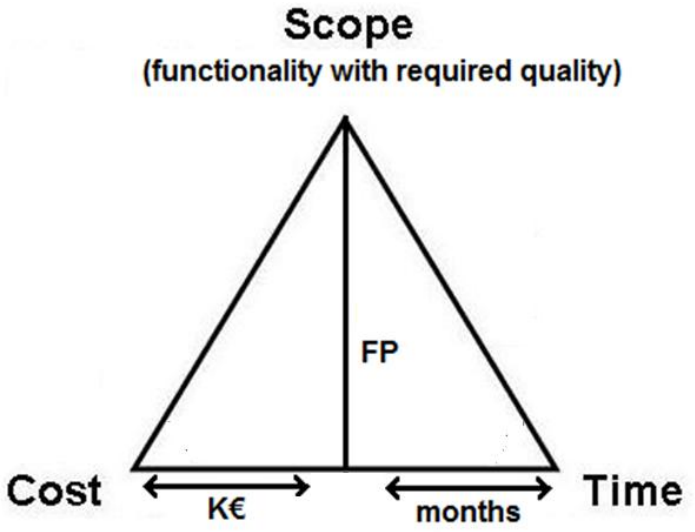
Methods and tools applied in cases 1 & 2

- Agile methods and tools: Scrum, 1 month sprints, daily scrums, retrospectives, ScrumMaster, Confluence, Jira, Bugzilla, kanban,...
- Requirements management methods and tools: User/role descriptions, user stories, business process modeling, entity relationship modeling, use cases, functional specifications, Confluence
- Estimating methods and tools: Project classification, Functional size, situation analysis, reuse analysis, historical data, Experience, ISBSG data
- Measurement methods and tools: Same as estimating methods + kanban + Triangle benchmarking

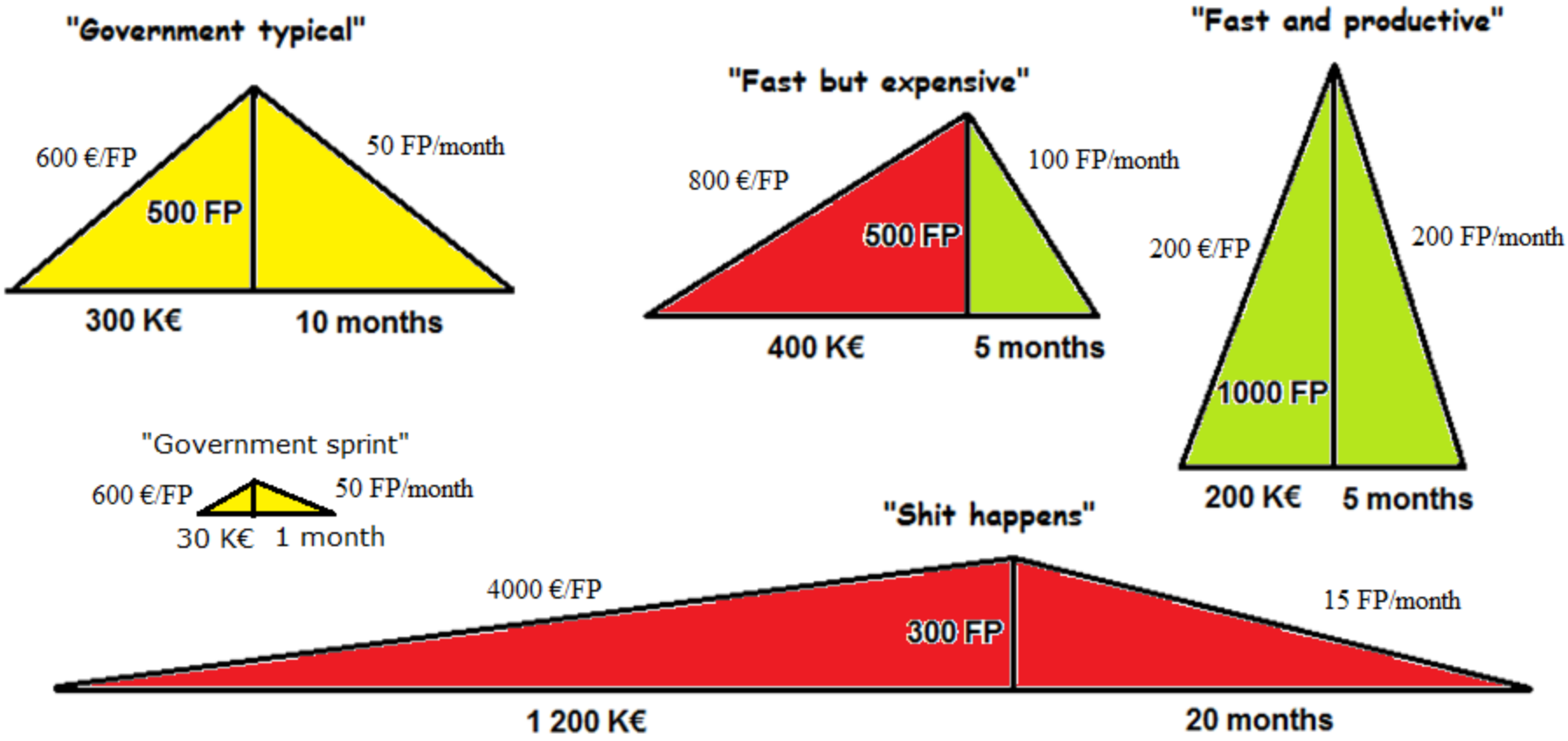
Main measurements, success indicators in cases 1 and 2

- Effort was measured in person hours (h) and price was measured in euros (€)
- Duration was measured in months (month)
- Amount of outcomes was measured in Function Points (FP)

- Success indicators for Product Owners were COST EFFICIENCY (€/FP) and DELIVERY SPEED (FP/month)
- Developer team used also DELIVERY RATE (h/FP)
- Triangle benchmarking used to show success easily



Examples of Triangle Benchmarking



Case study 1 – Experience® Service product development background

The target product was a SOFTWARE AS A SERVICE -type, three-tier application for estimating, measuring and benchmarking IT project performance.

CUSTOMER (PRODUCT OWNER) was 4SUM Partners Ltd, a private SME company, Espoo, Finland.

SUPPLIER (DEVELOPER TEAM) was MSG Software Ltd, a private SME supplier company, Oulu, Finland.

northernSCOPE™ concept was fully applied throughout the acquisition, i.e.:

- Request for Proposal introduced the size of the target software in terms of FUNCTION POINTS (FiSMA 1.1 method was used and the original size estimate was 800 – 1200 FP)
- The supplier candidates proposed UNIT PRICE, i.e. €/FP
- An independent Scope Manager consultant was hired by the customer
- ALL payments during and after the project were based on the agreed unit price and the measured delivery (FP), no ”additional work”

The supplier implemented the USER INTERFACE and BUSINESS LOGIC LAYERS of the system and applied SCRUM method which is an iterative and incremental Agile software development framework. HTML and Java programming languages.

DATA BASE SERVICE LAYER was implemented and maintained by another supplier under the control of Product owner. SQL Server and SQL programming language.

Case study 1 – Experience® Service product requirements management

6 Business processes were planned to be implemented (5 northernSCOPE™ -processes + user licence management)

25 user stories were written

QUALITY REQUIREMENTS for the target product were specified by business process, using the ISO/IEC 25010 quality model

13 Use cases were planned to be implemented

In addition to the original plan we implemented user management, password change, reuse analysis and benchmarking reporting (4 new use cases). As the result of iterative use case analysis two new use cases were defined.

Two original use cases were not implemented, but solved outside of the implemented system.

The total of 22 use cases were implemented.

Reporting (included also in use cases)

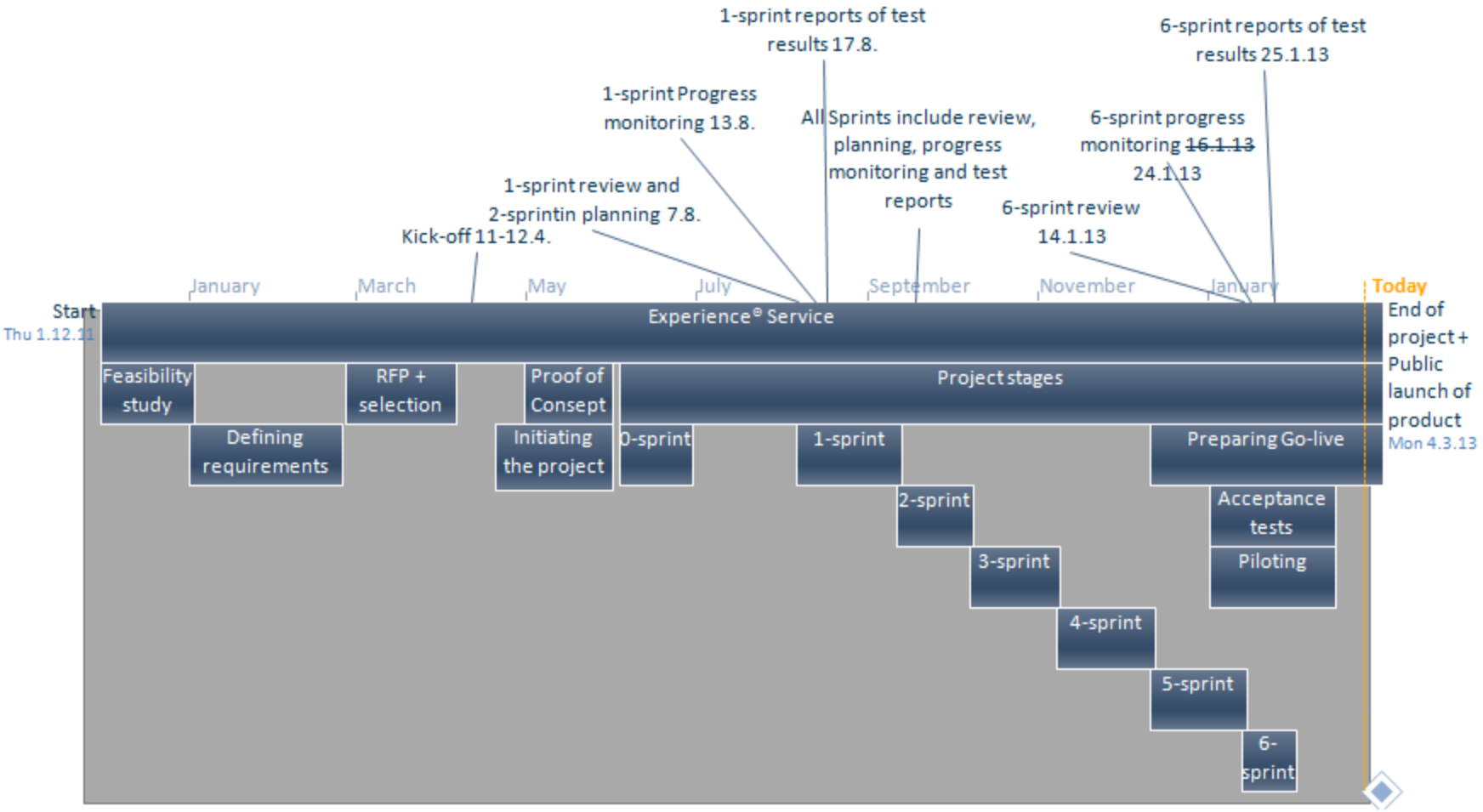
Planned reports (8 units) were implemented, and in addition one benchmarking report.

No interfaces to or from other systems, except the interfaces with the Experience® Database

Use cases were used as basis for sprint planning, chosen and prioritized by Product Owner.

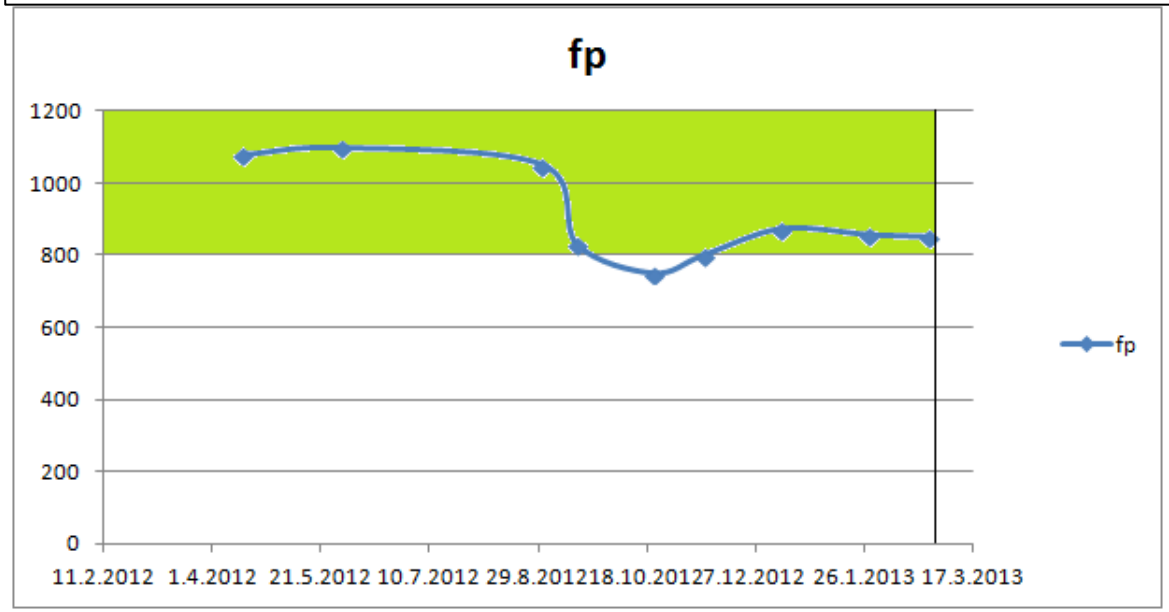
#NoEstimates BUT #YesMeasurement

Case 1 – Overall schedule with estimating and measurement dates



Case 1 – Estimates provided within the acquisition framework

- Early size estimate after requirements analysis (800 – 1200 FP)
- Fixed duration estimate before RFP (11 months)
- Early cost estimate after final selection (size * unit price)
- Baseline estimate before 1st sprint (1079 FP)
- Adjusted size estimates after every sprint, based on agreed changes in functional requirements, final size 851 FP

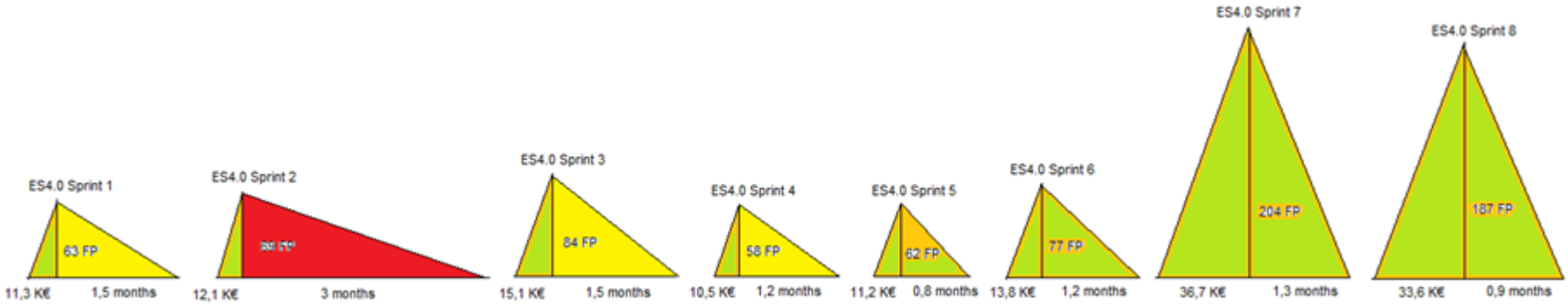


Note!
All estimates were provided by Product Owner and Scope Manager.

Case 1 – Measurements provided within the acquisition framework

Experience Service/progress summary

Measurement date	Size (Function Points) UI	BL	DB	Completed (FP) UI	BL	DB	Cumulative cost K€	Total size(Function Points) Planned	Delivered
2012-04-15	413	666	0	0	0	0	0,0	1079	0
2012-05-31	435	664	0	31	32	0	11,3	1099	63
2012-08-31	457	595	0	71	61	0	23,7	1051	132
2012-09-16	401	428	0	124	91	0	38,8	829	216
2012-10-21	362	388	0	136	138	0	49,3	750	274
2012-11-13	380	420	0	161	175	0	60,5	800	336
2012-12-19	404	470	0	197	216	0	74,3	874	413
2013-01-28	397	460	0	278	339	0	111,1	857	617
2013-02-25	397	454	0	379	425	0	144,7	851	804
2013-03-xx									



- Cost efficiency: The actual unit price was 180 €/FP, which is much lower (better) than industry benchmark.
- Delivery speed was 77 FP/month, also better than industry benchmark, good for commercial product development.

- Both the Product Owner representatives and the members of Development Team were satisfied, and the outcome product provides high quality service with very low maintenance cost.

Case study 2 – Valtimo program of Ministry of Social Affairs and Health background

The target product was a large three-tier information system for Occupational Safety and Health Administration

The program consisted of 8 subprojects

CUSTOMER (PRODUCT OWNER) was Ministry of Social Affairs and Health, Finland.

SUPPLIER (DEVELOPER TEAM) was Gofore Ltd, a private supplier company, Tampere, Finland.

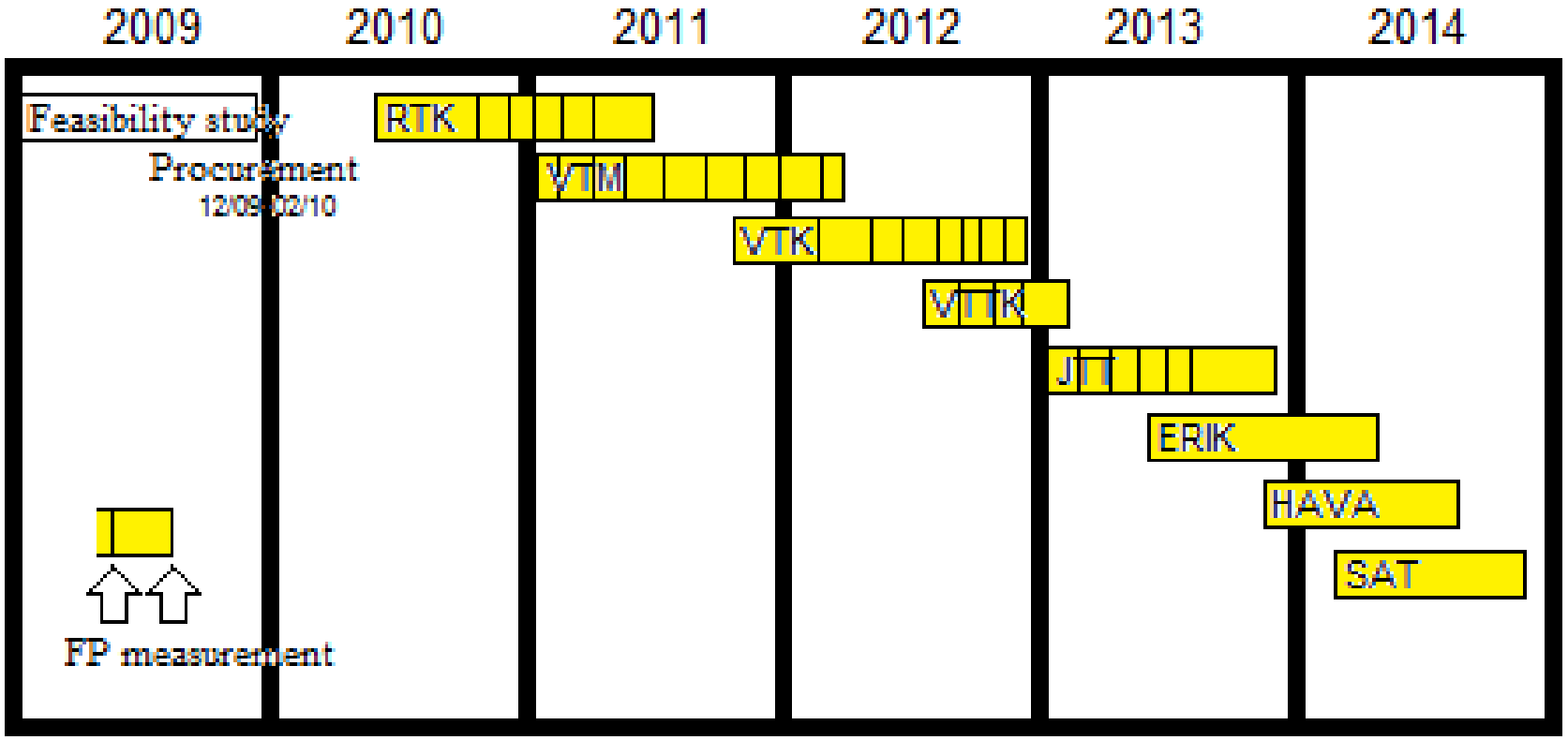
northernSCOPE™ concept was fully applied throughout the acquisition, i.e.:

- Request for Proposal introduced the size of the target software in terms of FUNCTION POINTS (FiSMA)
- The supplier candidates proposed UNIT PRICE, i.e. €/FP
- An independent Scope Manager consultant was hired by the customer
- ALL payments during and after the project were based on the agreed unit price and the measured delivery (FP), no ”additional work”

The supplier implemented all three layers of the system and applied SCRUM method which is an iterative and incremental Agile software development framework. HTML, Java and SQL programming languages.

All development work was divided into 3 week sprints within the sub-projects. Use cases were used as the basis of sprint planning.

Case 2 – Overall schedule with estimating and measurement dates

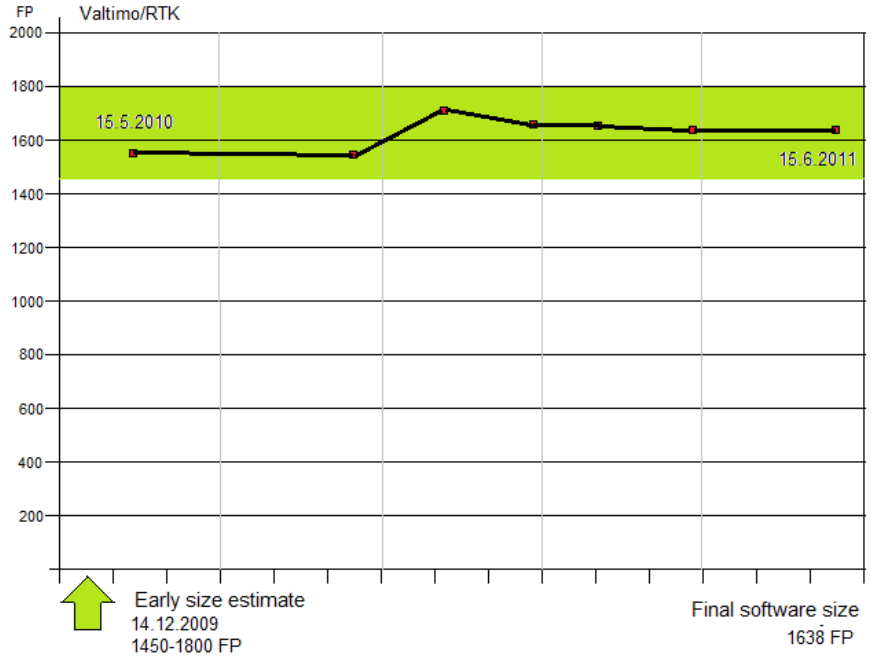


Case 2 – Summary of functional requirements of RTK sub-project

	RTK		VTM	JTT	TK	K ik	a T	TOTAL
User groups	3		2	1	0	0		8
User stories	4		18	6	3	6		45
Business processes	6		5	3	1	4		24
Use cases	26		23	24	7	0		97
Inquiry screens	21		20	19	#	5		107
Input screens	27		37	13	#	#		122
Reports	3		9	8	0	4		25
Interfaces to other	0		0	7	#	2		23
Interfaces from other	2		0	7	0	2		12
Entities	39		51	14	#	#		145
Algorithmic services	11		20	6	5	0		49
Function points	1638		1846	951	#	#		7011

Case 2 – Estimates provided within the acquisition framework of RTK sub-project

- Early size estimate after requirements analysis (1450 – 1800 FP)
- Early duration estimate before RFP (12 months)
- Early cost estimate after final selection (size * unit price)
- Baseline estimate before 1st sprint (1532 FP)
- Adjusted size estimates after every sprint, final size 1638 FP

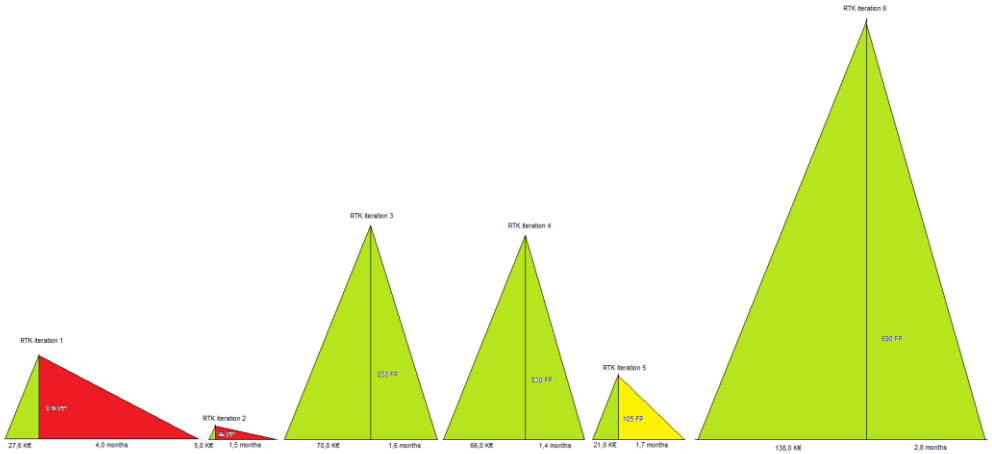


Note!
All estimates were provided by Product Owner and Scope Manager.

Case study 2 – Measurements provided within the acquisition framework

VALTIMO/RTK progress summary

Measurement	Size (Function Points)			Completed (FP)			Cumulative	Total size(Function Points)	
date	UI	BL	DB	UI	BL	DB	cost €	Planned	Delivered
2010-05-15	730	567	235	0	0	0	0	1532	0
2010-09-15	738	622	179	68	52	18	27600	1539	138
2010-11-02	821	672	213	82	60	21	32600	1706	163
2010-12-22	772	648	234	308	182	23	102600	1654	513
2011-02-03	772	647	228	427	302	114	168600	1647	843
2011-03-24	749	652	237	470	360	118	189600	1638	948
2011-06-15	670	669	299	670	669	299	327600	1638	1638



Case 2 – Success evaluation of Valtimo RTK sub-project

- Cost efficiency: The actual unit price was 200 €/FP, which is much lower than public sector benchmark (600 €/FP).
- Delivery speed was 126 FP/month, also much better than public sector benchmark (50 FP/month).

- Both the Product Owner representatives and the members of Development Team were satisfied, and the outcome system has been running and maintained smoothly and cost efficiently.

- Cases 1 and 2 were exceptional success stories, one from private and another from public sector. Both cases applied agile methods and no estimates werecarried by scrum teams at any point.
- If the scrum teams were requested to estimate (e.g. count story points or play planning poker), neither the cost efficiency (€/FP) nor the delivery speed (FP/month) would be better.
- If the measurements were omitted, the need for important scope and requirements' quality adjustments would not be recognized, and the target schedule would be missed by very high probability.
- I.e. #NoEstimates makes sense, but #YesMeasurements (= regular and frquent enough measurements) are required for success!

This presentation was based on two different real life cases, but the acquisition process including pricing model, requirement management and measurement methods etc. was similar.

What if the contracts were 'fixed price' or 'time and material based', would scrum team estimates add some business value and improve chances to succeed? Would regular and frequent measurements be less useful, or even unnecessary or waste of time and money?

#NoEstimates BUT
#YesMeasurement

Thank you!

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