

9th Central and Eastern European
Software Engineering Conference
in Russia - CEE-SECR 2013

October 23 - 25, Moscow

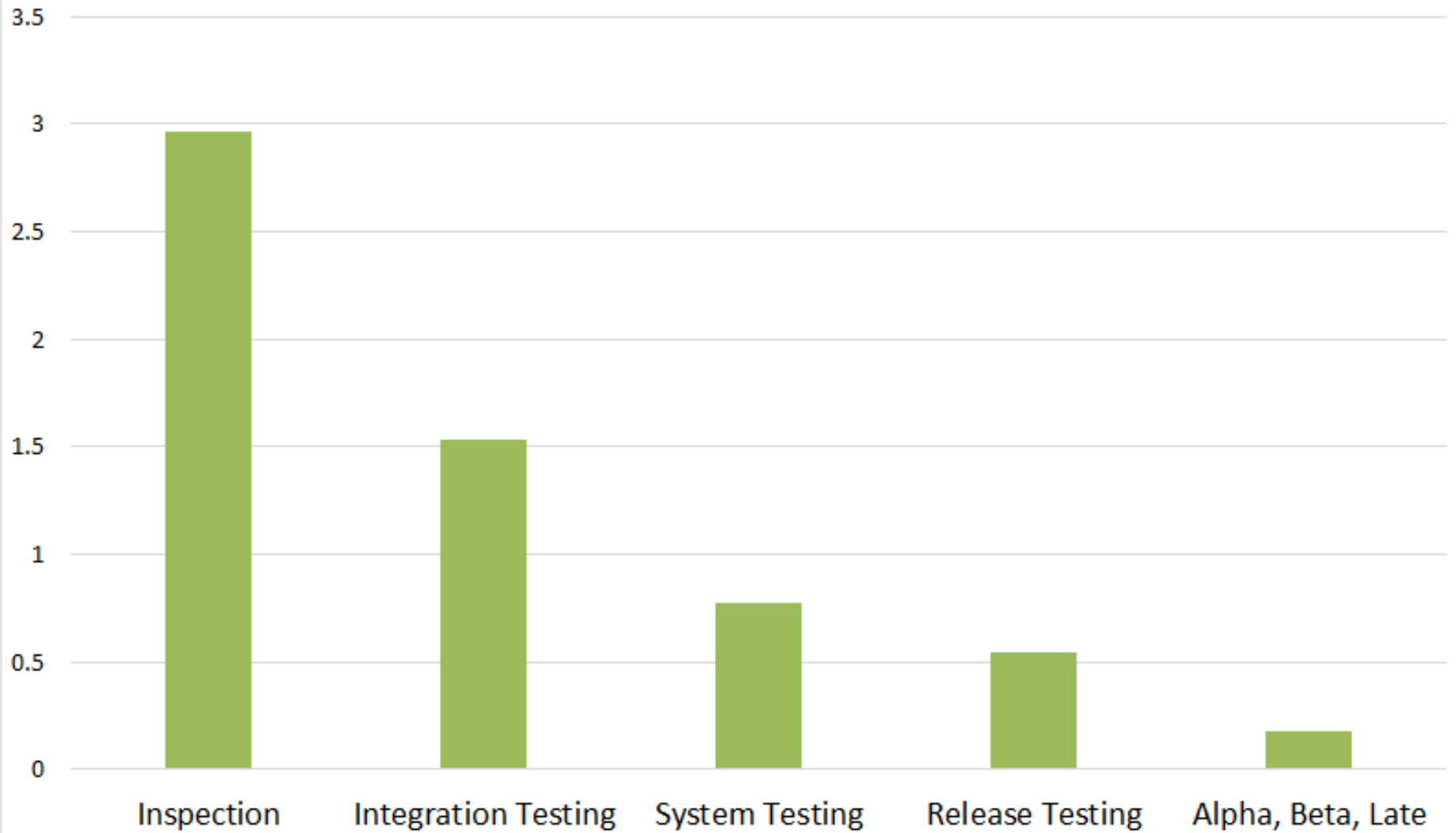


Как заставить данные
работать на ваш бизнес?

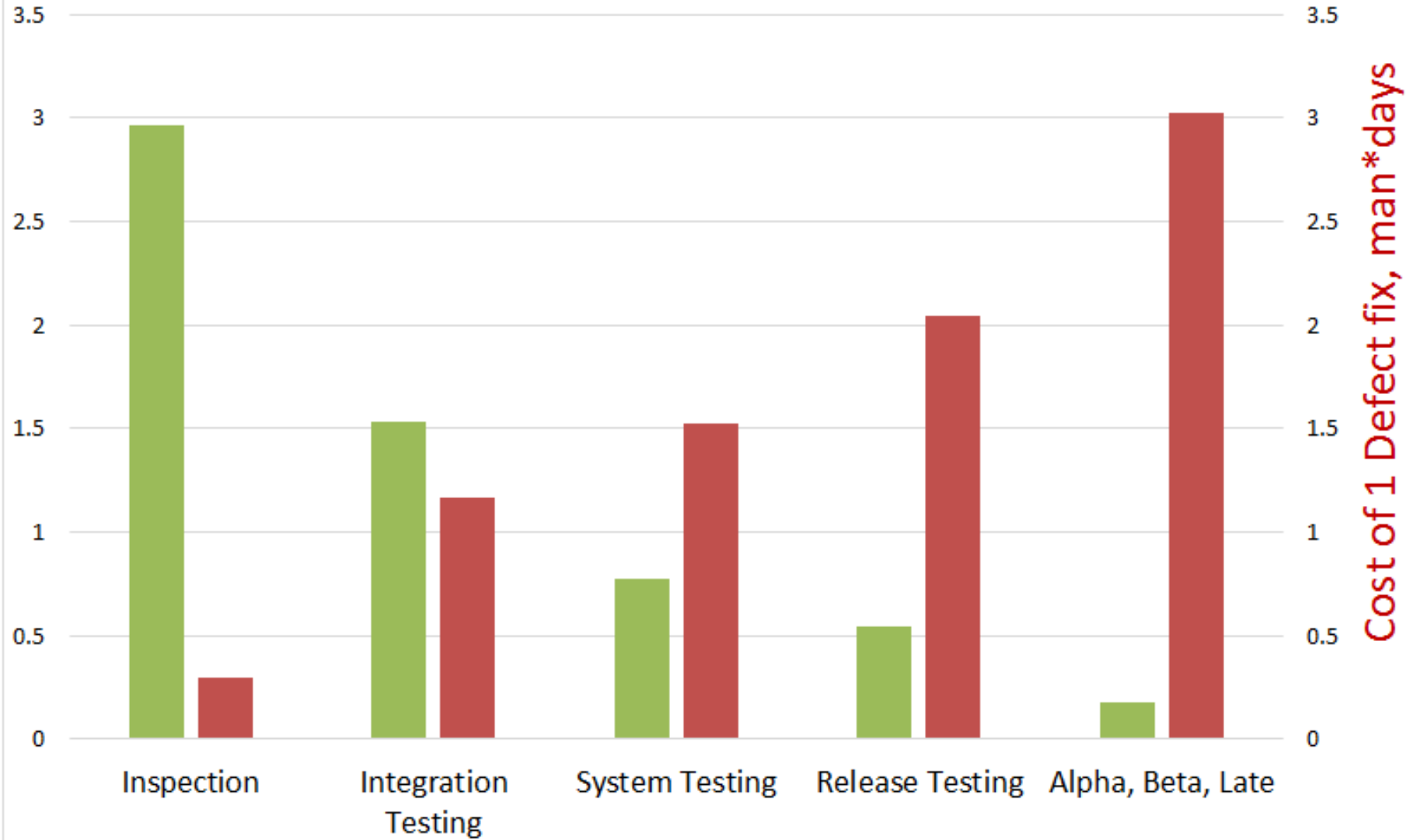
Ирина Максимова

CQG

Defect Densities, # Defects/KLoc



Defect Densities, # Defects/KLoc



TSPSM

Leading a Development Team



Обсуждайте на p2p.wrox.com



Серия «Программист - профессионал»



Scrum

с Team Foundation System
Профессиональный

Стив Резник, Аарон Бьорк, Майкл де Лейва

Microsoft
© 2010

Robert C. Martin Series

Agile Estimating and Planning



Mike Cohn

Forewords by Jim Highsmith, Agile Practice Director, Cutter Consortium, and
Catherine Burdett Director, Agile Product Development, Yahoo!

«You cannot improve what you cannot measure»

Tom de Marko

В среднем в год в ССС

Проекты ~ 100

Линий кода ~ 1 000 000

Задачи ~ 10 000

Инспекции ~ 10 000

Дефекты ~ 1 000

.....

2 миллиона записей в год





2 миллиона записей в год





4
km
4.9

RNP
0 km/h

km/h

x100
1/min

1/2





Effort format: Actual time h:mm (Planning Error% *)
 Days format: To date duration (Remaining Duration **)

*If Positive, planning error means overestimation
 **If Positive, remaining duration means delay

Delayed Inspection
 expected completion
 was Apr 22

Delayed Inspection Task
 expected completion
 was Apr 19

				April, 2011										May, 2011			Effort	Da			
ID	Name	...	▼	19	20	21	22	23	24	25	26	27	28	29	30	01	02	03			
Type: Inspection																					
1392123	DSI 283168001 Let's restrict in-grid edi...	N	💡																	2 (-	
986161	(1)Linking test suites to output item	N	💡																	264	
Type: Inspection Task																					
1013001	DSI 244880001 ConfigToll crashes on T...	N	📄																	0:02	92
1009834	DSI 199843601 Implement in TeamDas...	N	🔗		0:15															0:15 (650%)	102
Type: Task																					
1393068	Wiki documentation	P3	🔗								0:43									0:43 (-64%)	1 (-
1389578	DSI 283994403 Vertical size of the sele...	P2	🔗				0:08			0:30										0:38 (-68%)	3 (-
1377256	DSI 261647901 could you please try to...	P2	🔗	0:52	0:44															5:15 (-1%)	8 (5
1389540	DSI 280868301 Obscure error message...	P3	📄																	0:00	

No planning dates for the task

Planned Checking completion date is Apr 28

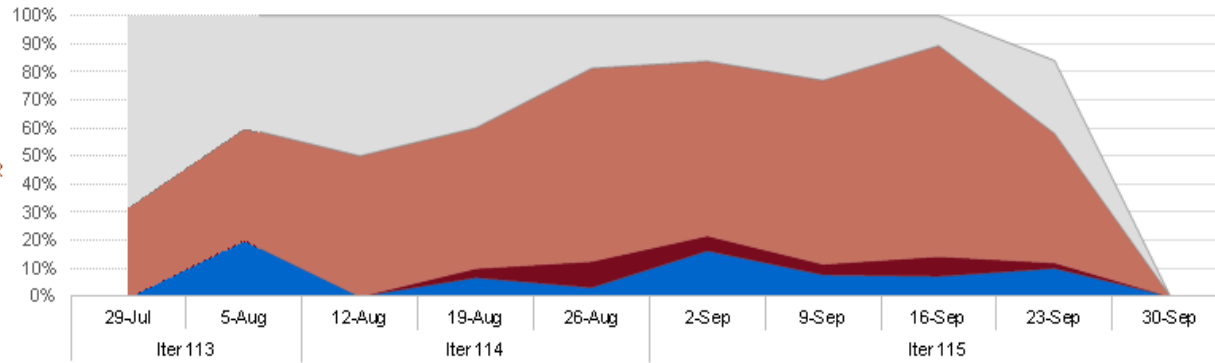
Task was re-planned,
 Initial completion date was
 Apr 19, New planned
 completion date is Apr 26

✓ Use tooltips over different cells for more detail



Issue Type / All Issues Rates %

Questions NonFunc Defects Func Defects Duplicates

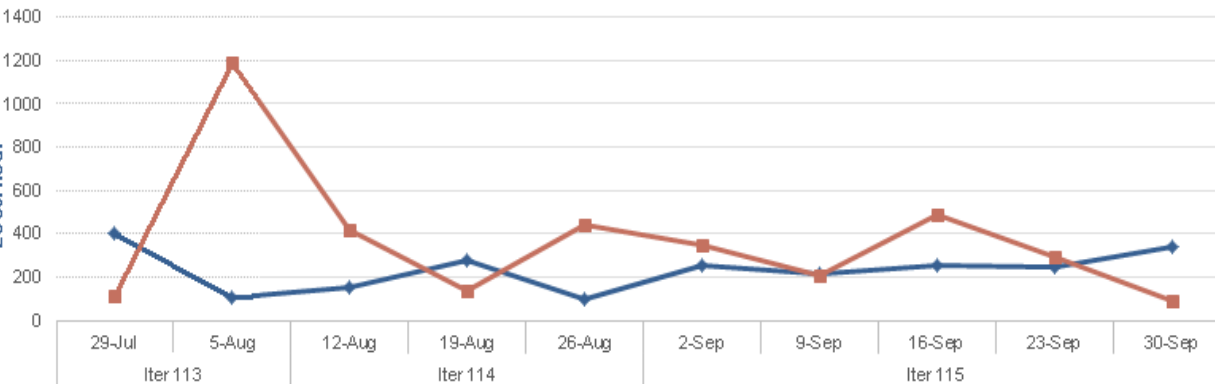


Almost the same as above but shows proportions of different issue types in percents

Avg Questions%: 28%
Avg (NF) Defects%: 55%
Avg (F) Defects%: 4%
Avg Duplicates%: 8%

Inspection Checking Rate vs. Issue Density

Checking Rate (LOCs/hour) Normalized Issue Density



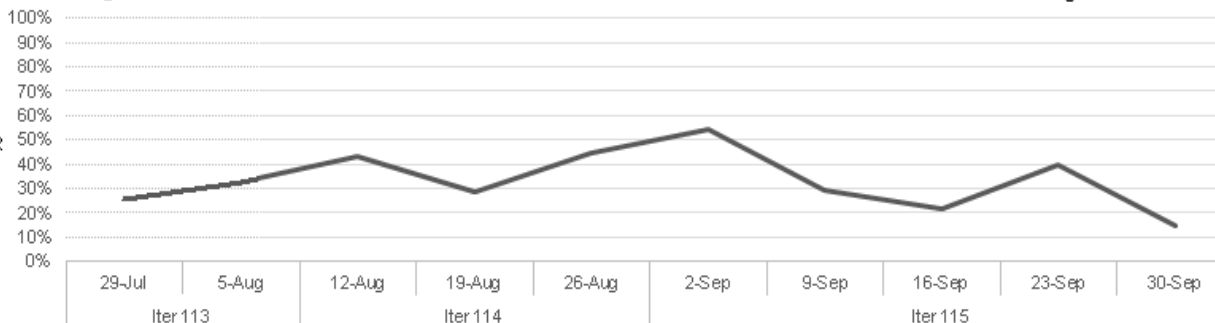
The chart shows dependency between Inspection Review Rate and Issue Density. Often it has negative correlation.

(Issue density is normalized by medium inspection review rate values, i.e. multiplied by some factor. So do not see on absolute values of defect density here. To see absolute values look at the chart above).

Avg Checking Rate: 239 LOCs/hour

Avg Estimated Yield %

Avg Yield %



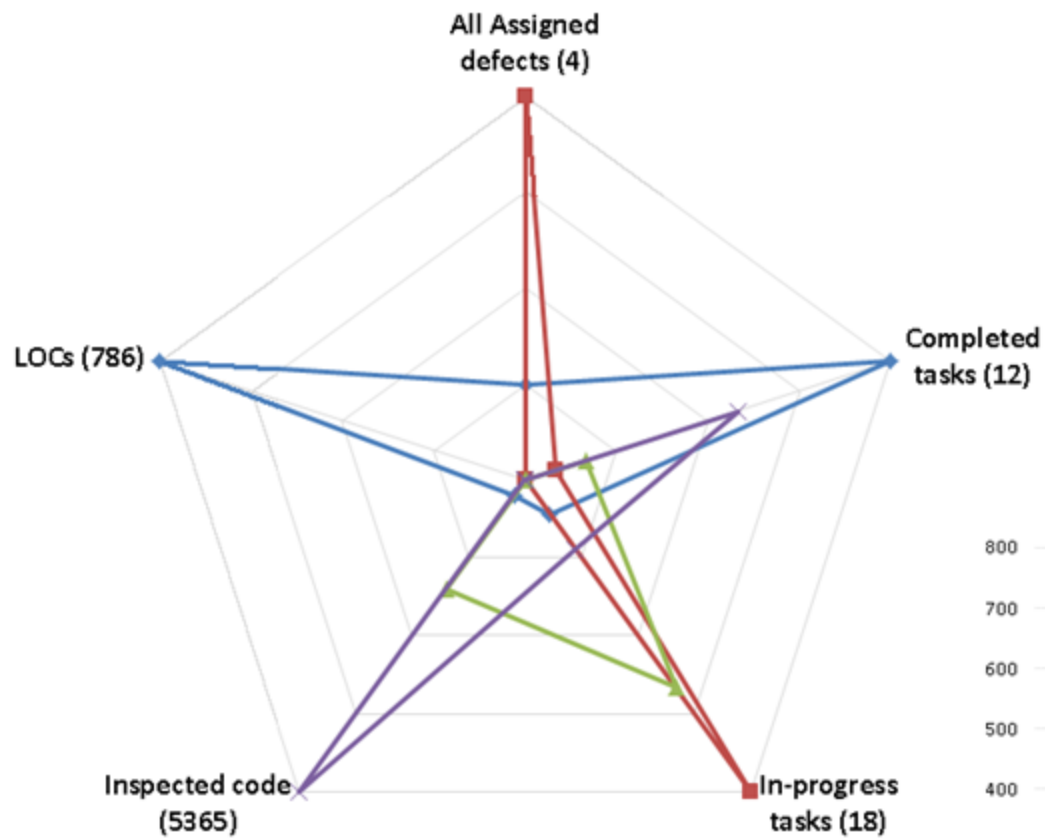
Expected yield is 50-70%.

It's average yield% for all inspections in a week.

For single inspections the yield is calculated with following formula (it's based on idea how to calculate how many fish there are in a lake):

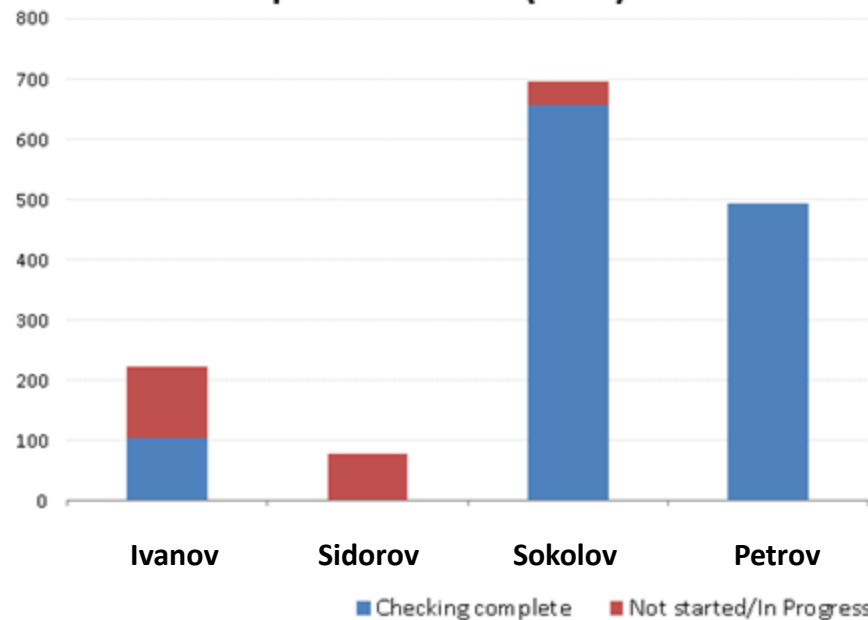
$$\text{Yield\%} = \frac{(n-d) * (d+1) * 100\%}{(n/2+1)^2}$$

n - number of all issues found during inspection;
 d - number of duplicates found.



- Ivanov
- Sidorov
- Sokolov
- Petrov

Inspection metrics (Time)



Формализованные
процессы

Группа «специально
обученных» людей

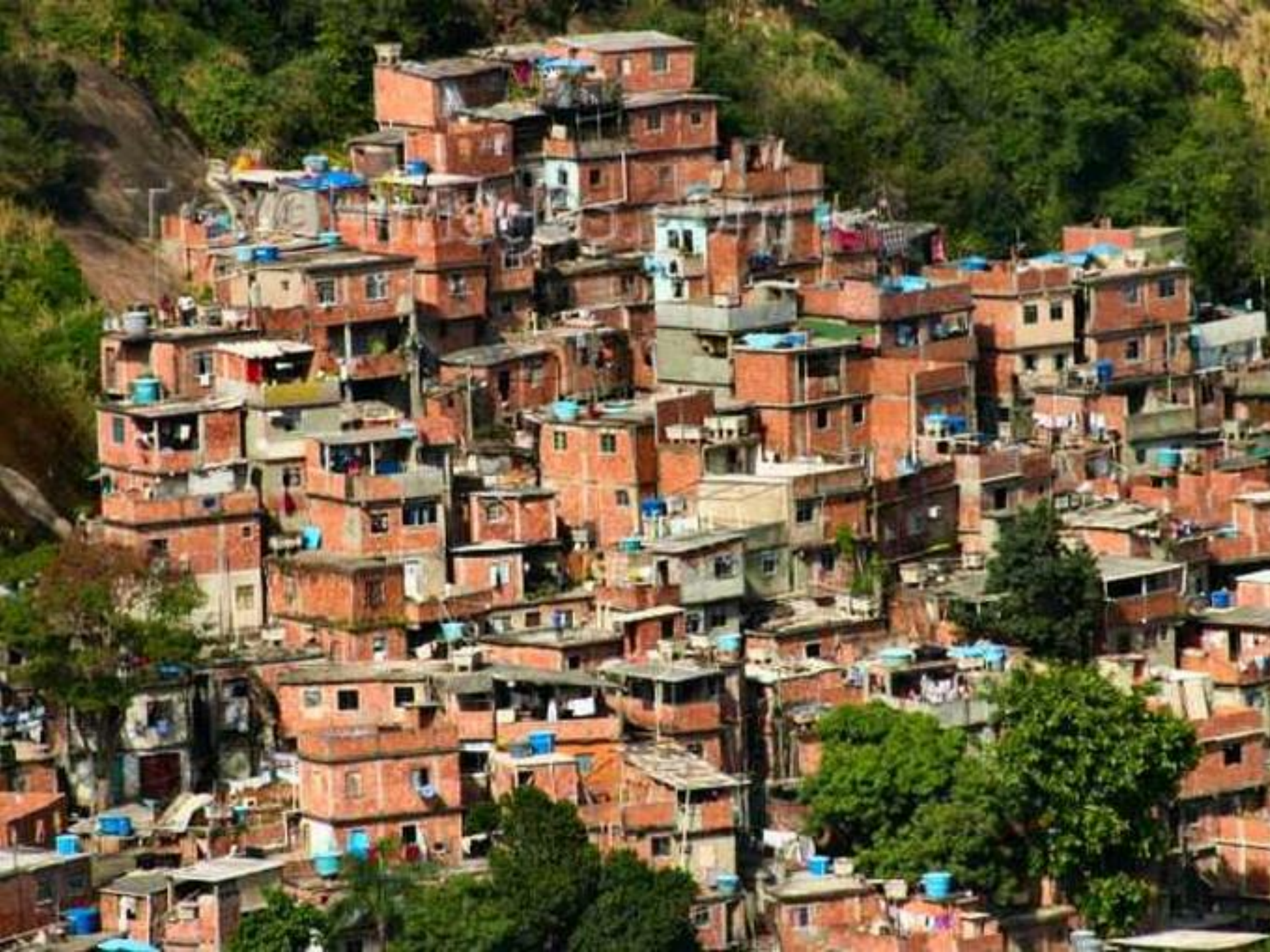
Тренинги





“Специально обученные” люди







PM

Успешный проект

RD



Продуктивный офис

Users

TL

Эффективная команда

SO

Стабильная система





PM

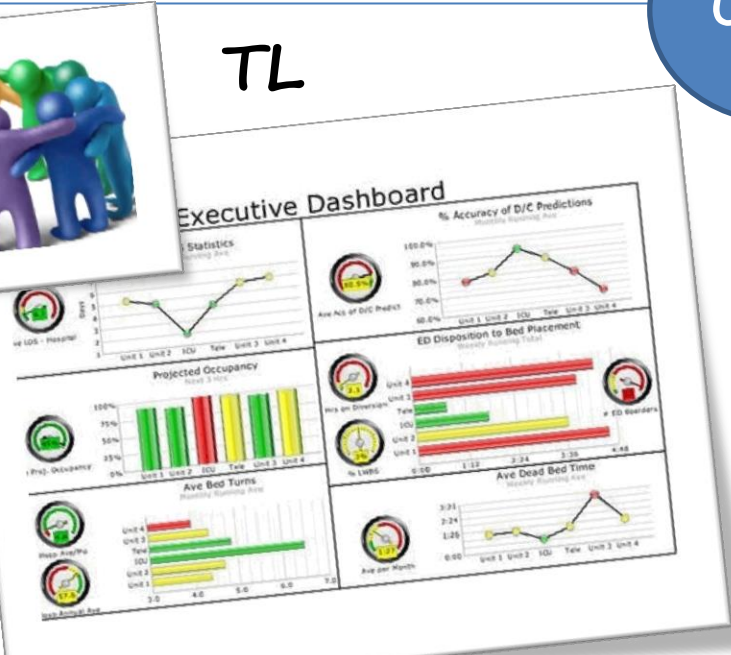
RD

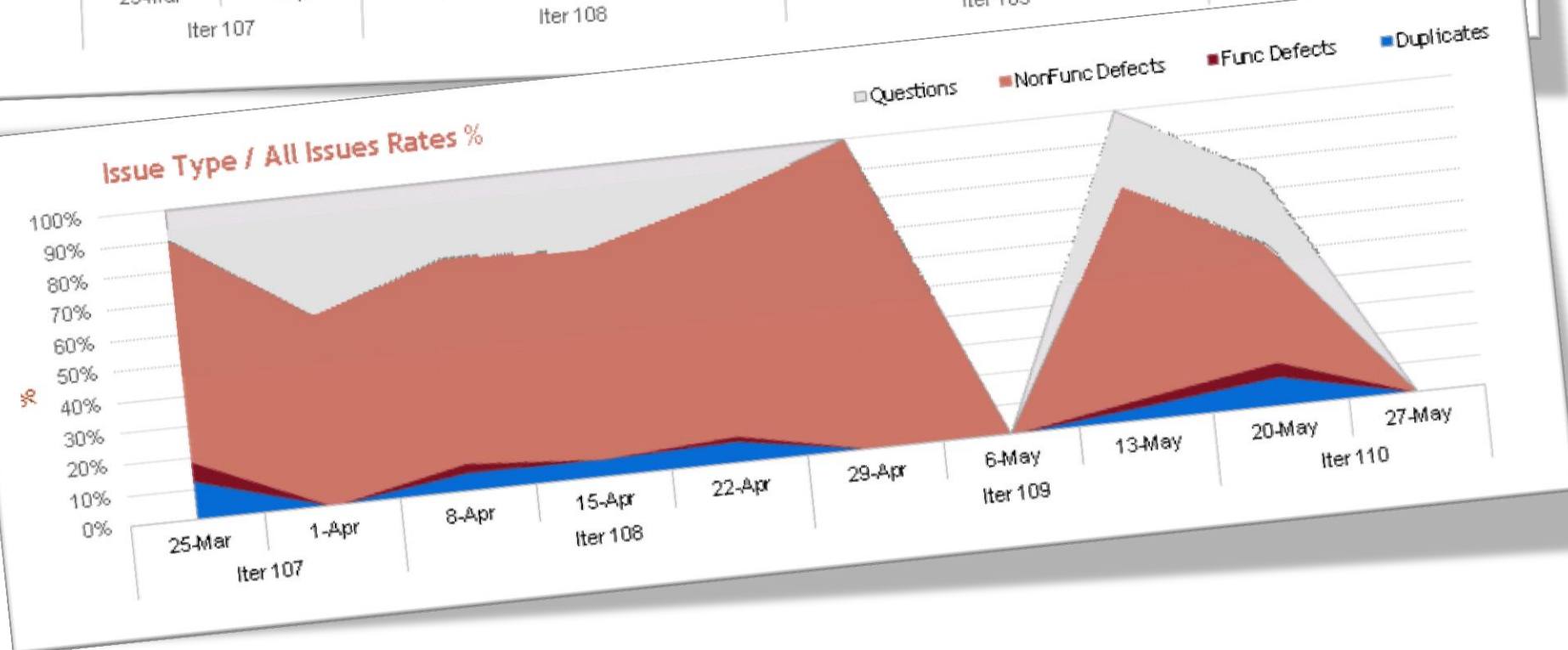
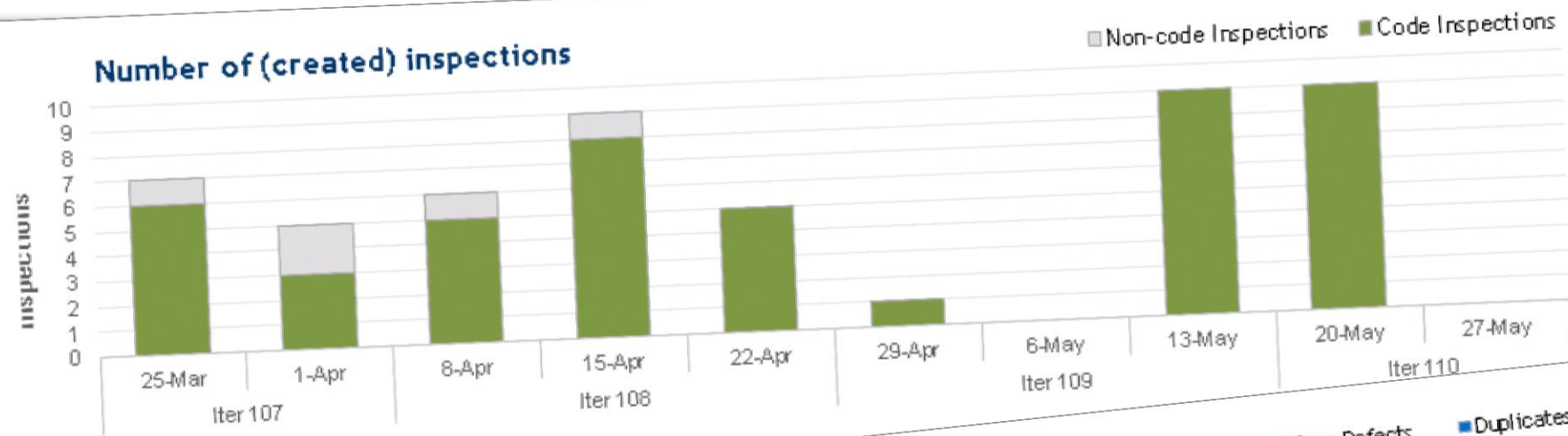


Users

TL

SO





Простые и понятные названия

МИНУТОЧКУ, ЭТО В ЛОКТЯХ
ИЛИ В САНТИМЕТРАХ?



Единицы измерений.



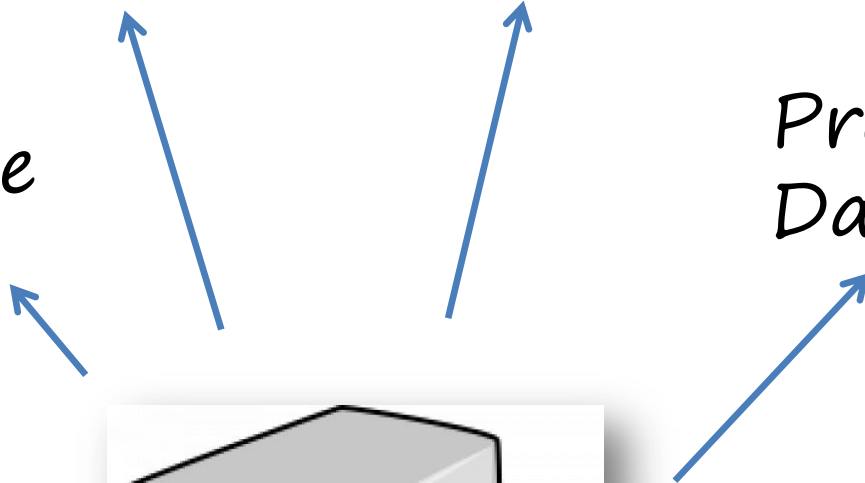
Синхронизизация дашбордов!

Team
Dashboard

Developer
Dashboard

Maintenance
Dashboard

Project
Dashboard





Дашборды должны быть Up to Date с процессами.



Какова норма?



Снизить риски

Плотность

3 дефекта
на 1000 строк

Скорость

350 строк
кода в час

Статистика по инспекциям



Santo en comp
tu estimada madre.
hermanos tu amiga
te quer.

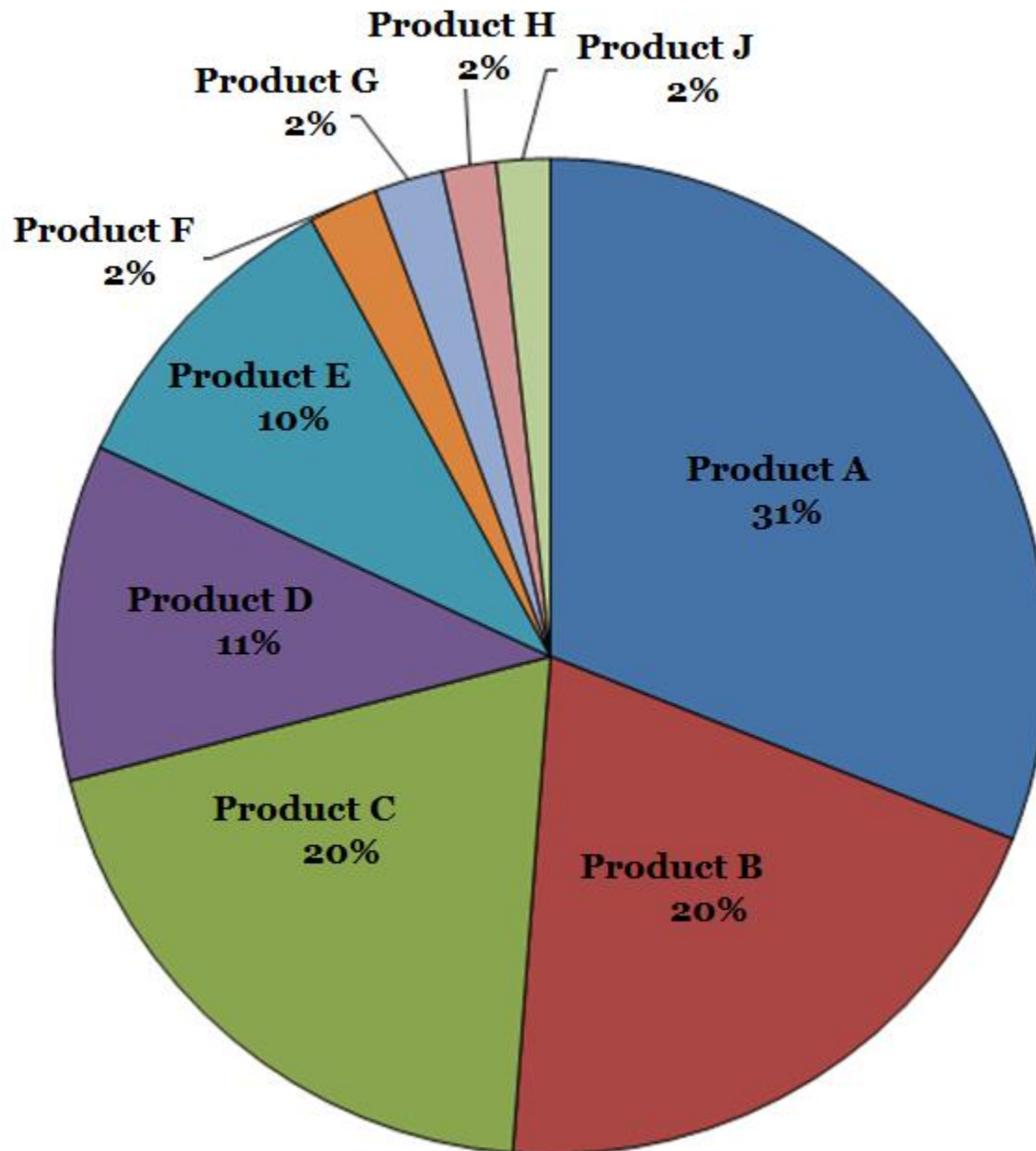
Barcelona

Santo



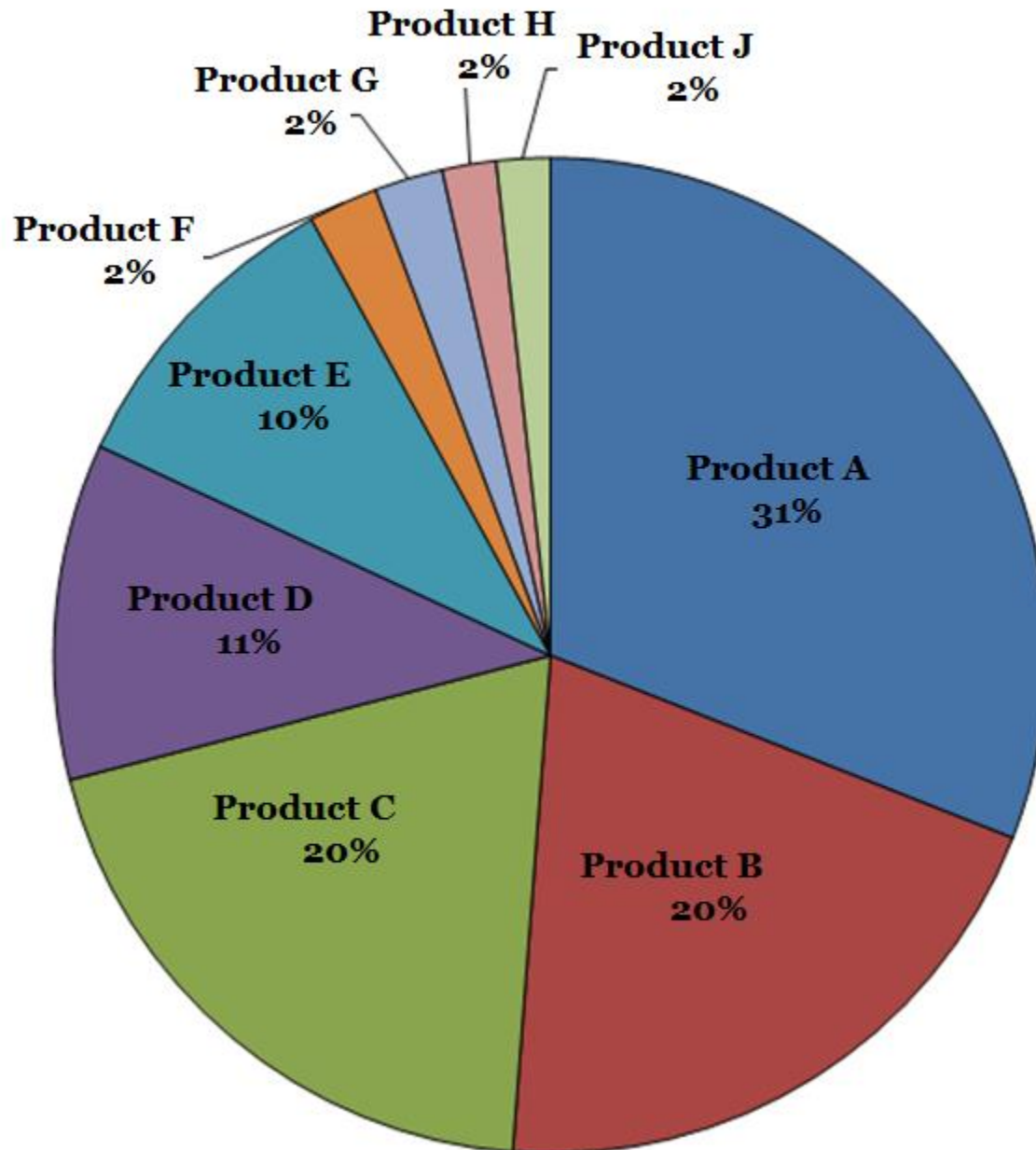
Возможность посмотреть детальные
данные.

Developer Effort by Product



[Go to Details](#)

Developer Effort by Product



Distribution of Development activities with not active or empty Product

start date of the period: 27.05.2013

next after the end date of the period: 09.06.2013

Count of Items: 2252

Non P
projec
field

Activity ID	Activity Type	Project ID	Project	Product	FTE
2163468	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,20
2164455	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,20
2162283	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,20
2157750	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,20
2168941	Meeting	57588	Hiring	Non Product Development	0,20
2161754	Meeting	57588	Hiring	Non Product Development	0,20
2157544	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,19
2165324	Code & Unit Test	1885044	Release Management in ALM tool	Non Product Development	0,16
2160016	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,13
2165323	Code & Unit Test	1885044	Release Management in ALM tool	Non Product Development	0,13
2165381	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,13
2163435	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,12
2169203	Meeting	57588	Hiring	Non Product Development	0,10
2168904	Meeting	57588	Hiring	Non Product Development	0,10
2168325	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,10
2168860	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,10
2161439	Management	1993031	DOM Grid Behavior Investigations	Non Product Development	0,09
2164079	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,09
2164658	Meeting	57588	Hiring	Non Product Development	0,09
2166168	Meeting	57588	Hiring	Non Product Development	0,09
2166094	Management	1993031	DOM Grid Behavior Investigations	Non Product Development	0,08
2166311	Code & Unit Test	1885044	Release Management in ALM tool	Non Product Development	0,08
2166954	Meeting	57588	Hiring	Non Product Development	0,08
2162874	Investigation	1993031	DOM Grid Behavior Investigations	Non Product Development	0,08
2165509	Meeting	57588	Hiring	Non Product Development	0,08
2166095	Management	1993031	DOM Grid Behavior Investigations	Non Product Development	0,07
2168861	Management	1993031	DOM Grid Behavior Investigations	Non Product Development	0,06

Turnaround- жизненный цикл дефекта

P1 дефект

52 дня

Возможность посмотреть детальные
данные.

Refresh

DSI: 563414001

Developer Turnaround: 39

Current State: Closed/Resolved

[Go to Open DS](#)

Priority: 1-Immediately

Whole Turnaround: 52

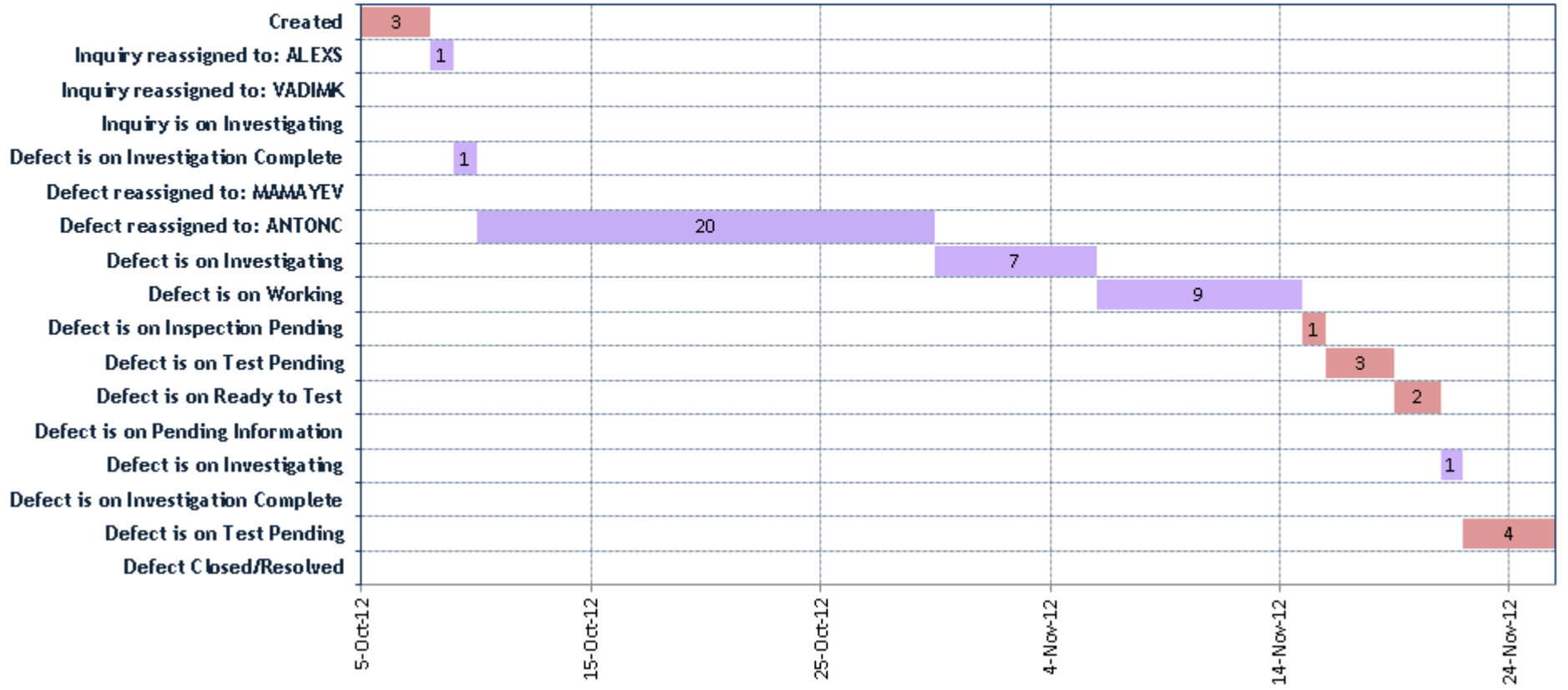
Summary: alerts are not reliable

[Go to Fixed DS](#)

Priority Changes

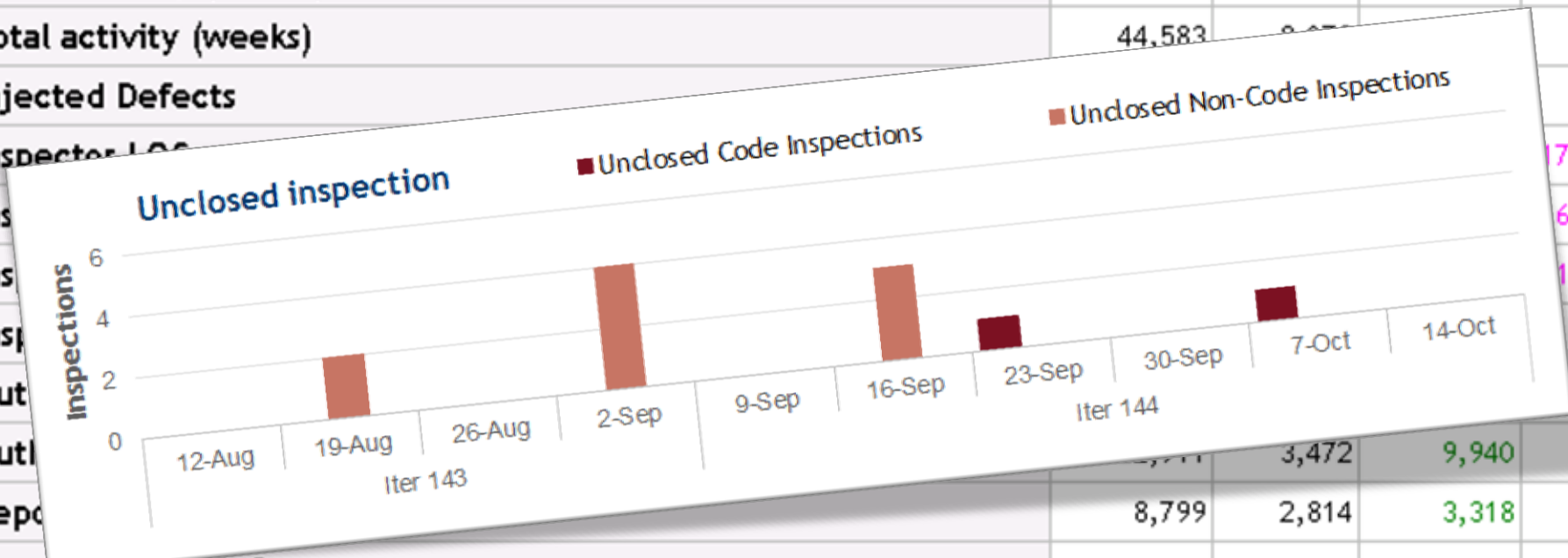


Activity Steps



<i>Parameter</i>	<i>All PD</i>	<i>Office</i>	<i>System</i>	<i>Team</i>
Documentation activity (weeks)	659	56	25	1
Management activity (weeks)	761	104	269	14
Investigation activity (weeks)	7,978	1,390	3,301	230
Other activity (weeks)	5,738	939	1,918	136
Total activity (weeks)	44,583	8,079	16,782	1,113
Injected Defects	14,185	2,703	6,263	438
Inspector LOCs	13,167,511	2,038,295	4,865,294	172,207
Inspector Time for Code Insp	3,578,869	552,867	1,402,401	62,363
Inspector Issues for Code Insp	335,314	53,256	170,709	14,231
Inspector Found Defects for Code Insp	206,976	31,045	108,157	9,394
Author LOCs	6,047,482	978,418	2,308,859	82,124
Author Fdefects for Code Insp	22,911	3,472	9,940	630
Reported Int+Sys Defs	8,799	2,814	3,318	231
Reported Late Defs	8,078	1,092	4,508	294
Reported Sugs	3,906	329	1,596	28
Reported Inqs	1,995	168	658	35
Unknown Defects	3,941	1,323	1,813	308
LOC Productivity (in LOCs/Week/Man)	171	189	169	94
Maintenance Productivity (number of D+S+I completed/Week/Man)	2.08	2.13	2.01	2.00
Injected Genie Defect Density (in #defects/KLOC)	1.86	1.77	2.21	4.17

Parameter	All PD	Office	System	Team
Documentation activity (weeks)	659	56	25	1
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Other activity (weeks)	5,738	939	1,918	136
Total activity (weeks)	44,583	8,477	23,121	1,113
Injected Defects				438
Inspector LOC				172,207
Inspected LOC				62,363
Inspected Defects				14,231
Inspector Defects				9,394
Autocorrected Defects				2,124
Autocorrected Defects				630
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15 000 инспекций

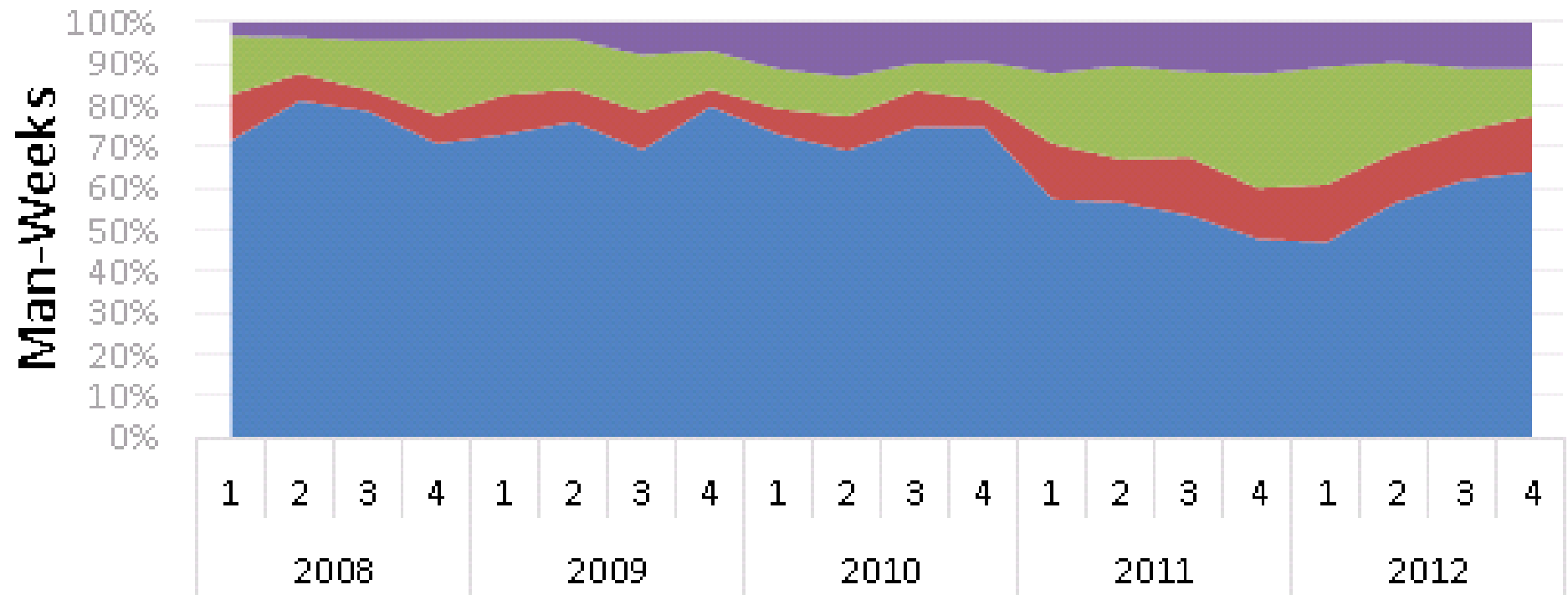
9 000 дефектов

Defect – баг, проблема

Inquiry – вопрос

Suggestion – улучшения

■ Inquiry
 ■ Suggestion
 ■ Defects
 ■ Development



Development vs Maintenance



Формализованные
процессы

Система
сбора

4

Мотивация
разработчиков

Дашборды



Формализованные
процессы

Система
сбора

4

Дашборды



Формализованные
процессы

Система
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4

Мотивация
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Спасибо

irinam@cqg.com
8 916 298 78 04

CQG