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# Transformation of an IT team using Lean IT and Agile

Volvo Group

Volvo Digital &amp; IT | Cooperation with Universities

2023-01-28

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## Volvo digital & it

Volvo Digital & IT manages Volvo Group's IT strategies and plans and has the end-to-end responsibility for all development, delivery, and support of IT solutions and services globally.



Volvo Group

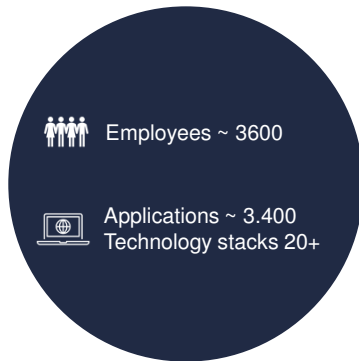
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## We are colleagues from around the globe

Volvo Digital & IT – facts & figures



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## Agenda

- |                                    |            |
|------------------------------------|------------|
| • Welcome and a few words about me | 2 minutes  |
| • Information about Volvo Group    | 2 minutes  |
| • Background                       | 5 minutes  |
| • Transformation                   | 20 minutes |
| • Results                          | 5 minutes  |
| • Findings                         | 5 minutes  |
| • Q&A                              | 20 minutes |

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Welcome!



Łukasz Jeż  
Agile & Lean Coach  
DevSecOps Platform Tools



- IT
- SupplyChain
- Lean
- Agile
- Results
- Team



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And now our story begins...

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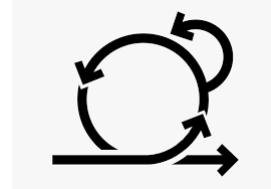
## Initial Situation

- Low customer satisfaction
- Unacceptably high cost
- Low team morale
- High attrition
- Missing skills and knowledge
- Incapable processes
- Unclear process flow
- Huge and growing technical debt
  
- Can Agile alone handle all these issues?
- Can Lean IT alone handle all these issues?

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## Choice of Approach

- Can Agile alone handle all these issues?
- Can Lean IT alone handle all these issues?



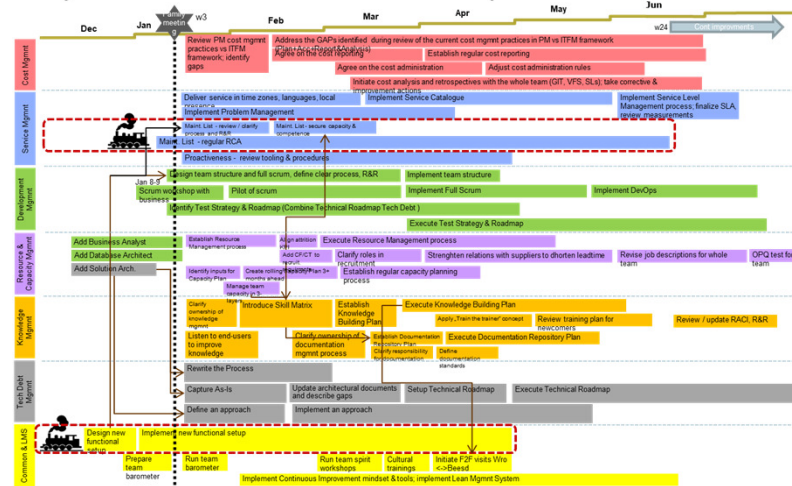
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## It all started with a Pre-Study...

	From (opportunities)	To (acceptable level)	How (prioritized countermeasures)
Cost Control mgmt	GIT does not have a global consistent cost management process in place for VFS.	Agreed, executed and documented cost management process in place for VFS, which will support an controlled, transparent, predictable, acceptable cost level for delivery.	Implement/review/execute a documented Cost Management process, covering Financial Planning, Accounting, Financial Reporting & Analysis.
Service mgmt	Service is not managed and delivered in a proper, efficient and structural way according to industry or GIT best practices.	Managed and formalized service delivery of the solution according to industry and/or GIT best practices.	Define services with acceptable level <ul style="list-style-type: none"> <li>Formalize services in SLA aligned with ARTS</li> <li>Implement improvements resulting from benchmarking with Volvo processes (Problem mgmt, SMD, etc.)</li> </ul>
Development mgmt	Development and Maintenance of the solution is not managed according to proven development methodology, discipline and process.	Managed development and maintenance of the solution according to proven development methodology, discipline and process.	Establish new Distributed Development model anchored in SCRUM and DevOps (with RAR) <ul style="list-style-type: none"> <li>Build additional Business Analyst capacity to fill the gap between business stakeholders and development team.</li> <li>Add the role IT Solution Architect</li> </ul>
Technical debt mgmt	Technical state of the solution is not managed anymore and technical debt of the solution increases.	Managed technical state of the solution and reduced technical debt.	Re-establish the Technical Debt Management (process, approach, refactoring based on joint roadmap) <ul style="list-style-type: none"> <li>Add Solution Architect</li> </ul>
Resource and capacity mgmt	Resources mgmt practiced in the past is not sufficient in current distributed environment; Capacity mgmt not balanced with actual business demand; Mutual trust in the whole team is missing	Ability to timely scale up and down according to business demand Regular structured Capacity mgmt process One team feeling	Establish Resource mgmt strategy and process <ul style="list-style-type: none"> <li>Create the rolling capacity plan 3+ months ahead</li> <li>Cultural trainings for all locations</li> <li>F2F visits both ways Wro-Besed</li> <li>Team spirit workshops</li> <li>Team barometer</li> </ul>
Knowledge mgmt	Competence (including Captive Finance knowledge) of the team is not managed according to standards; Knowledge documentation is insufficient	Developing and maintaining the required knowledge around VFS (CF) and TD/BA (MAS/DCL) domains Knowledge mgmt process & documentation repository in place	Develop and maintain (Financial) Competence using lean skill mgmt practices <ul style="list-style-type: none"> <li>Build Knowledge repository covering functional and technical documentation</li> </ul>

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... the Pre-Study was translated into a Masterplan



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Agile & Lean Coaches were supporting several activities throughout the Stabilization

- Training



- Value Stream Mapping



- Gemba



- Problem Solving



- Feedback & Coaching



- Assessment



**Wait a second! Why Agile and Lean Coaches together?!**

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Scrum fits development teams well (events, roles and artifacts); the whole team had very specific needs that required specific solutions...



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Therefore, Scrum had to go hand in hand with Volvo Production System For IT (VPS4IT)



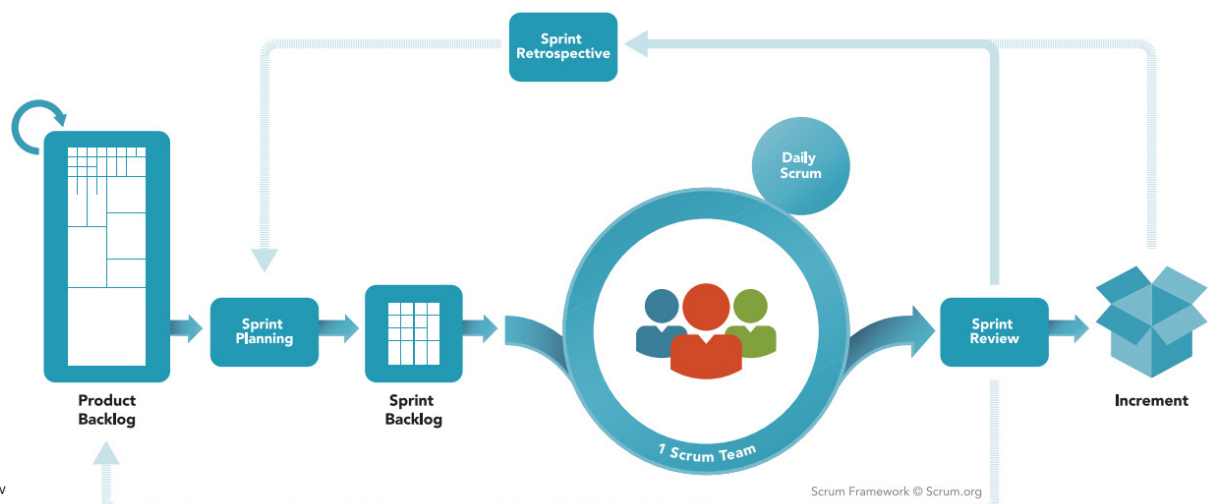
VPS4IT offering a whole set of proven Lean methods and tools

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So, again, let's see what happened in more detail...

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Scrum meeting structure implemented in the Development Team with roles, events and artifacts





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## Lean Meeting structure with Visual management introduced in the Support and Management Team

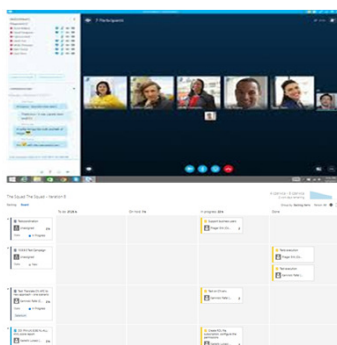


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## Gemba + Feedback + Coaching practiced



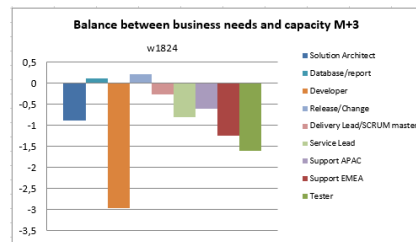
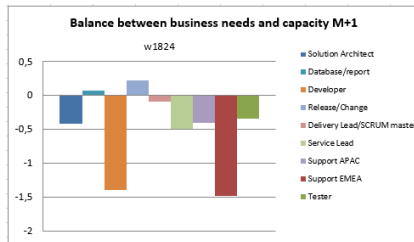
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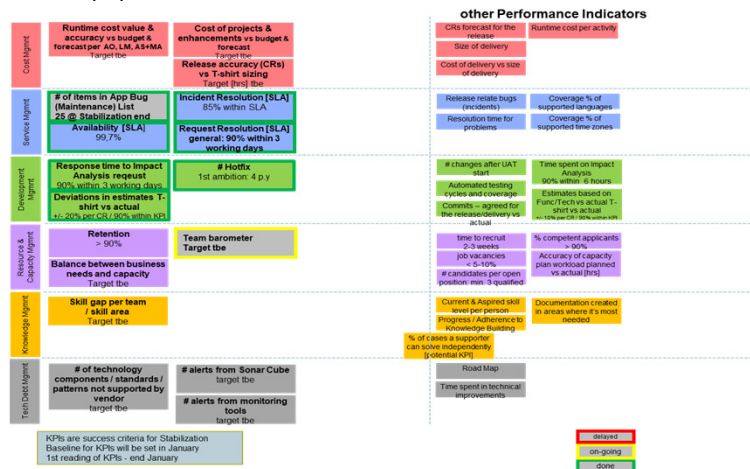
## Regular Capacity Management process in place

	June					July					August					September					October				
Discipline	w1822	w1823	w1824	w1825	w1826	w1827	w1828	w1829	w1830	w1831	w1832	w1833	w1834	w1835	w1836	w1837	w1838	w1839	w1840	w1841	w1842	w1843	w1844	w1845	w1846
Solution Architect	-0.60	-0.36	-0.36	0.14	-0.14	-1.23	-0.43	-0.83	-1.03	-1.13	-0.53	-0.68	-0.73	-0.68	-1.48	-0.48	-0.43	-0.43	-0.14	-0.14	-0.09	-0.09	-0.09	-0.09	-0.09
Database/report	-0.09	0.10	0.10	0.14	0.14	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.15	0.15	0.15	0.15	0.15	0.15	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Developer	-1.17	-0.02	-1.02	0.06	-1.31	-2.02	-2.32	-2.52	-3.37	-3.56	-4.26	-2.86	-2.21	-2.16	-4.61	-3.81	-3.01	-3.01	0.26	0.51	0.51	0.51	0.51	0.51	0.51
Release/Change	-0.04	0.15	0.15	0.25	0.17	0.17	0.27	0.27	0.27	0.27	0.27	0.08	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Delivery Lead/SCF	-0.25	-0.06	-0.06	0.44	-0.22	-0.36	-0.26	-0.01	-0.01	-0.01	-0.01	-0.16	-0.01	-0.86	-0.01	-0.36	-0.01	-0.86	-0.22	0.28	0.28	0.28	0.28	0.28	0.28
Service Lead	-0.67	-0.29	-0.29	-0.35	-0.24	-1.18	-0.24	-0.43	-0.24	-0.24	-0.24	-0.80	-1.18	-1.18	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
Support APAC	-0.23	-0.23	-0.43	-0.43	-0.39	-0.39	-0.39	-0.59	-0.39	-0.39	-0.39	-1.19	-0.39	-0.39	-0.39	-0.59	-0.39	-0.79	-1.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
Support EMEA	-1.60	-1.97	-1.03	-1.29	-1.73	-1.83	-1.00	-0.89	-0.89	-0.89	-1.63	-1.82	-0.69	-0.79	-1.64	-1.83	-0.79	-0.79	-0.89	-0.89	-0.89	-0.89	-0.89	-0.89	-0.89
Tester	-0.53	0.45	0.45	0.65	0.33	-1.28	-1.08	-1.48	-2.08	-0.98	-0.98	-0.80	-1.25	-2.20	-2.20	-2.20	-2.20	-1.80	-1.18	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	-5.18	-2.24	-2.50	-0.40	-3.40	-8.13	-5.54	-6.49	-7.75	-6.58	-7.62	-8.24	-6.04	-7.84	-9.96	-8.89	-6.45	-7.30	-3.05	-1.20	-1.15	-1.35	-1.35	-1.35	-1.35



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## Set of potential (K)PI's defined



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## Basic Performance Management established...

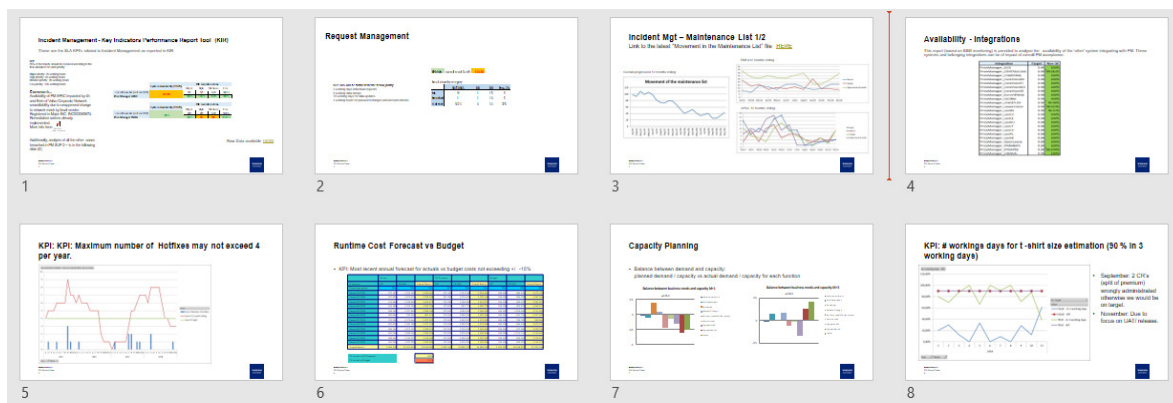


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## ... and refined over time

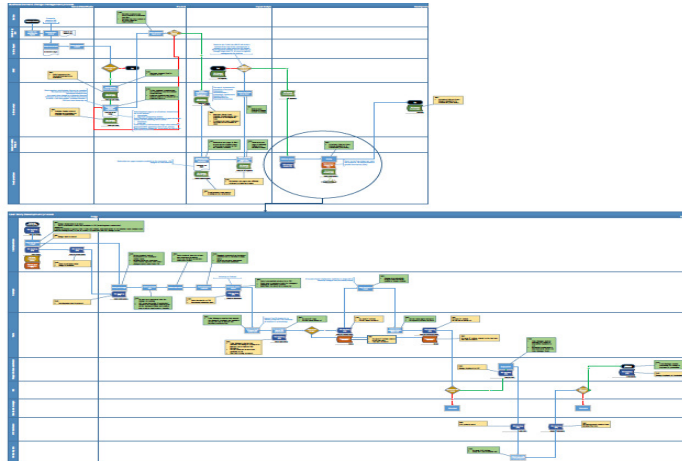


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## Process Flow for Basic Development established based on Value Stream Mapping



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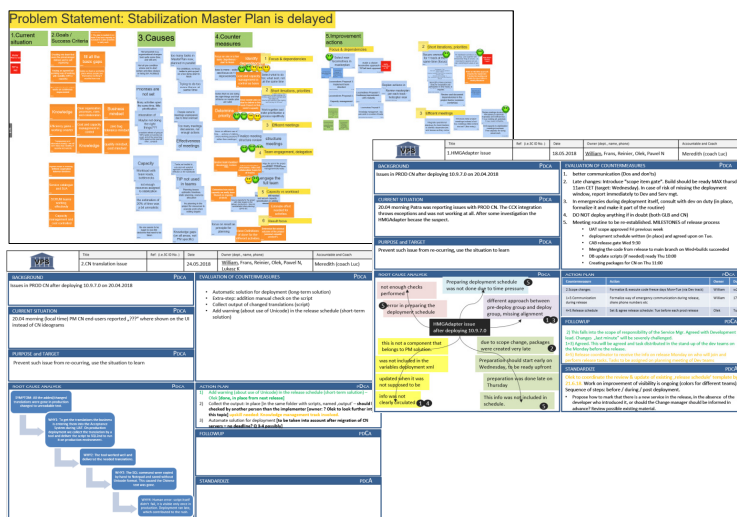
## Team Spirit monitored and acted upon



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### Problem Solving practiced



## Lean and Agile maturity assessments to support sustainability



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## Results?

- Nice story, but what are the the results?
- Good point. Let's have a look.

**RESULTS**

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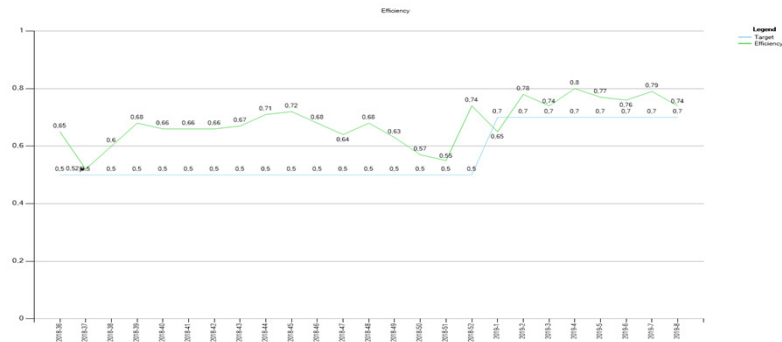
## Data-based results

Impact on main performance dimensions visible:

- Quality
- Delivery/Speed
- Cost

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## Team Utilization Rate

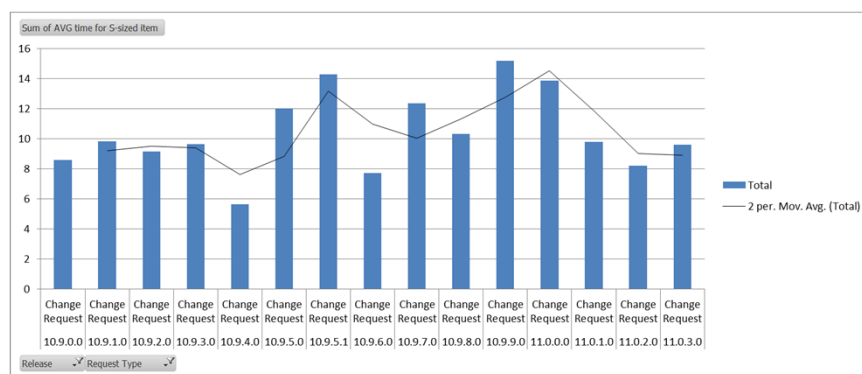


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## Average time [hrs] spent on change requests (S-size normalized)

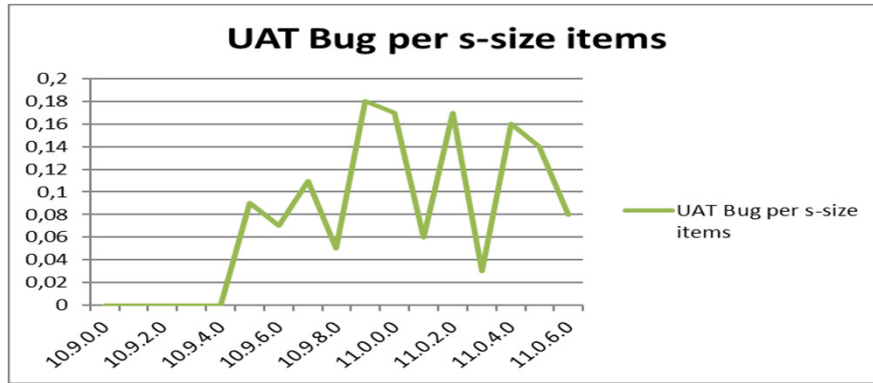


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## Number of UAT bugs per S-sized item

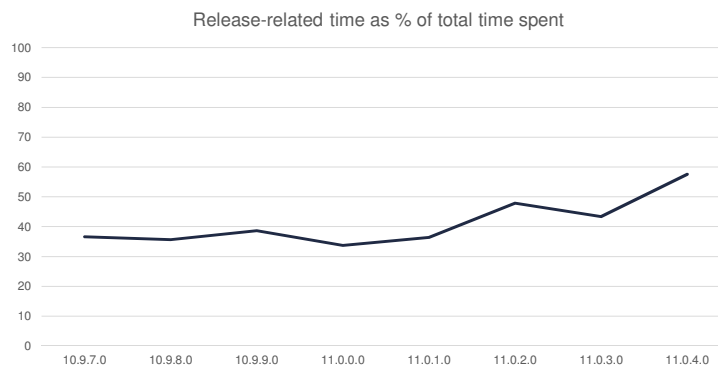


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## Time spent on release-related activities vs total available time



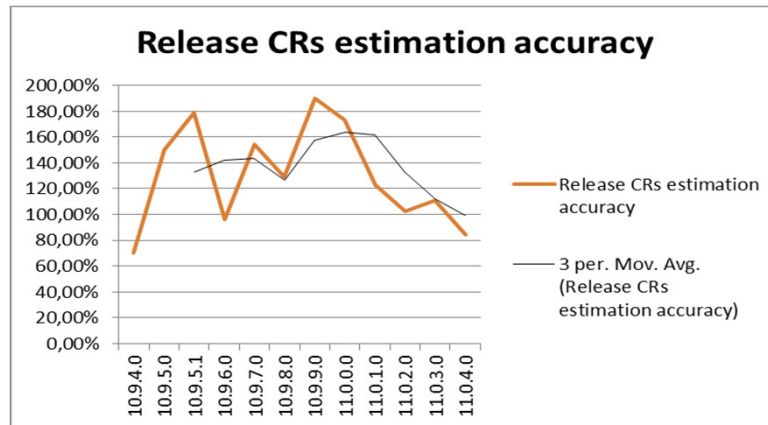
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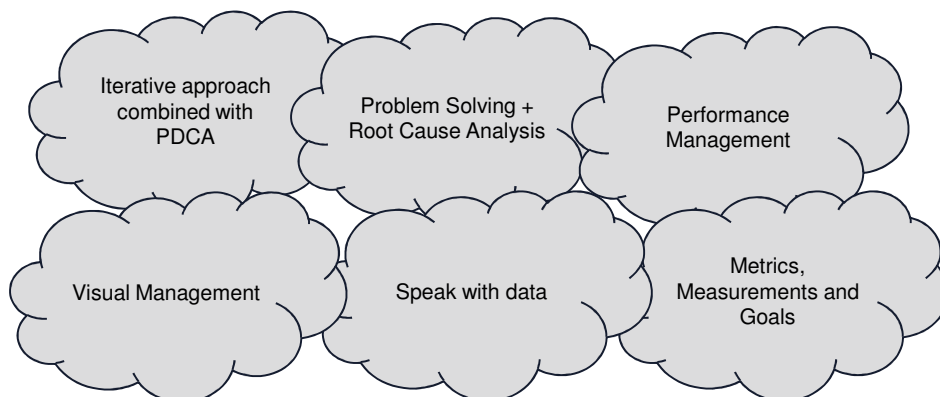
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## Estimation accuracy



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## Team Leaders' takeaways



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## Agile and Lean IT – how they work together

- Why we chose these 2 methods
  - Why Scrum:
    - Proven framework with defined basic processes, roles and artifacts
    - Facilitating better communication and collaboration inside and outside the team
    - Quick feedback and response to changes
  - Why Lean IT:
    - The team needed more than just a new way to drive development work:
      - Knowledge management
      - Capacity planning
      - Process optimization
      - Performance management
      - Continuous improvement
      - People development
    - Wide range of tools and methods to address these areas.

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## Agile and Lean IT – how they work together

- First, understanding and alignment where each approach could help
- New meeting structure driven by Scrum with new roles and artifacts
- Then, Lean IT elements added to those meetings: Performance Management, KPI's, Continuous Improvement/PDCA thinking, Problem Solving
- Gemba (go and see approach), feedback and coaching were practiced regularly
- Additionally, for non-development work aspects, things like Skill Matrix, (mid- and long-term) Tactical Implementation Plan, Value Stream Mapping were added, when needed

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## Agile and Lean IT – how they apply to different aspects of team life

	Developers & Testers	Service team	Management team
Daily meetings	standups	daily huddles	daily huddles
Weekly meetings	planning	weeklies	weeklies
Visualisation of work	TFS	SNOW	iObeya
Performance Mgmnt	retrospectives, dashboard	dashboard	dashboard
Problemsolving & improvements	retrospectives	problem mgmnt, A3	CI goals
Resource & Capacity Mgmnt			Capa Mgmnt
Competence & Knowledge Mgmnt	knowledge repository, skill matrix	knowledge repository, skill matrix	
Team Spirit	retrospectives, team barometer	team barometer	team barometer

Lean IT
Agile
ITIL

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## Lessons learnt

- When people are really in trouble (burning platform), they are more likely to welcome changes (unlike people living in a comfort zone)
- When you start to measure, you start to see (otherwise you are blind) – see committed vs delivered
- It is easy to end up with a Scrum façade (if you don't keep coaching, continually reminding people about Agile values and ways of working, practicing Continuous Improvements)
- Many issues were due to relations between people/teams/locations (the soft stuff was the hard stuff)
- If Project Management sits far away, it doesn't help the project
- F2F meetings are often the best & easiest & quickest way to go forward

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## Your Reflections / Takeaways

- Something I am going to remember after today's workshop is...
- I found myself paying attention to...
- If you/your team could be a hashtag, what # would you/your team be?
- Something I can contribute to this change is...
- A bridge we should build is...
- A bridge we should burn is...
- A question that is still emerging to me...

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## Your feedback matters!