



# Implementing Kanban at Scale at Sandvik IT

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# The Story

Why?

- Why the Kanban Method at Sandvik IT?

How?

- How did we implement Kanban within 60+ teams?

Impact!

- The results so far

Next

- Our new challenges





SANDVIK

## What are we?

We are a world-leading high-technology engineering group.



## What do we do?

We manufacture advanced special alloys and ceramic materials, industrial tools and mining equipment. We work in close cooperation with our customers and we invest heavily in research and development.

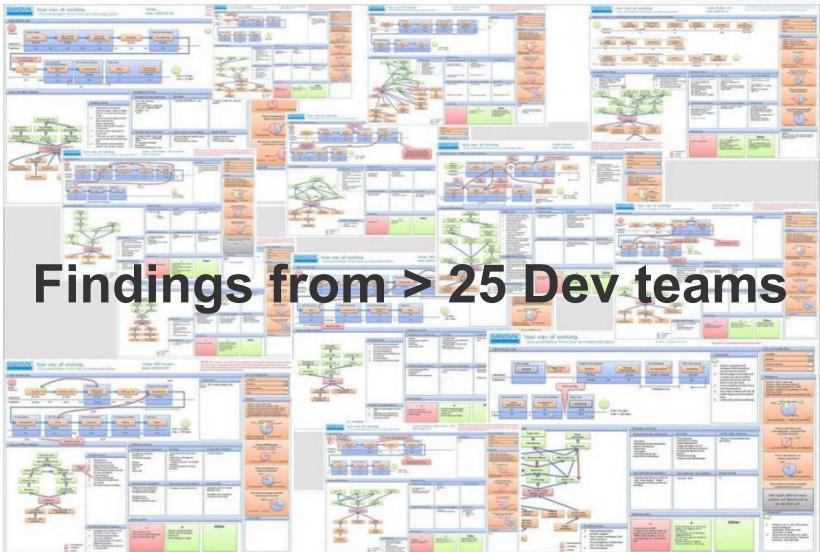


## Who are we?

Our corporate culture is characterized by our thrive to bring the best and most innovative solutions to our customers.

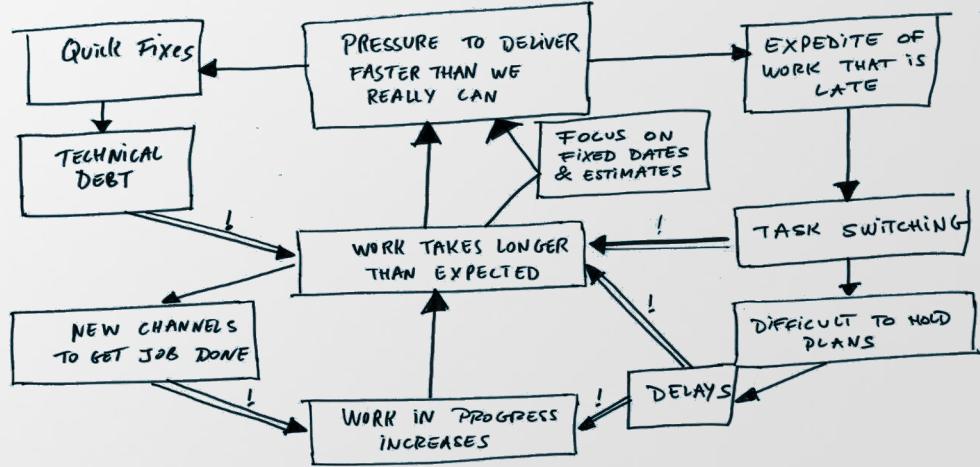


# Why Kanban at Sandvik IT



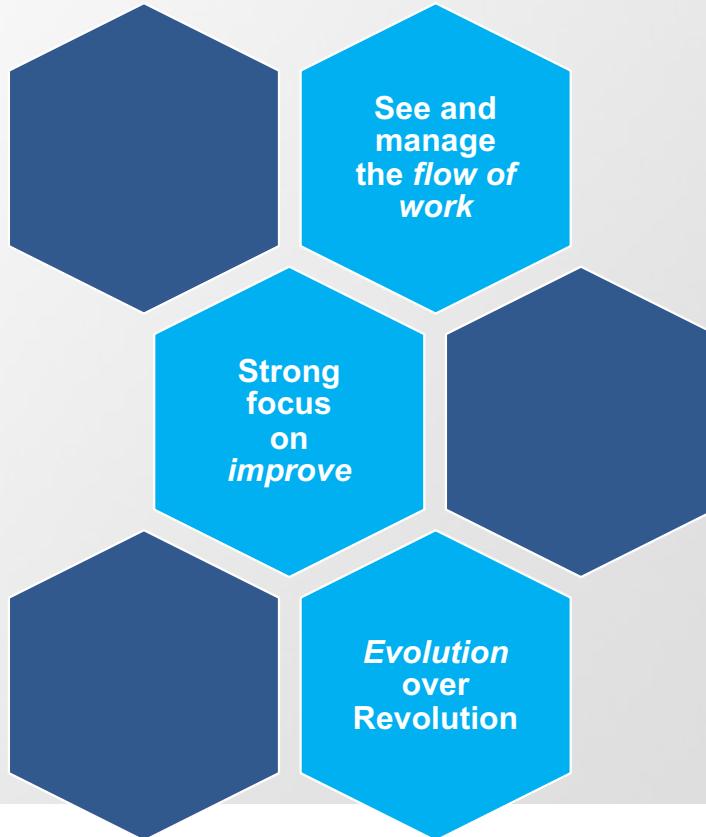
Findings from > 25 Dev teams

Same top challenges



Root cause → No Flow control

# The Kanban Method Fits our Context and Goals



# How to make Kanban implement itself?



# Engineering the Kanban Implementation

## Pull-based

- No Push!

## Awareness

- Get early adopters

## 1 Day

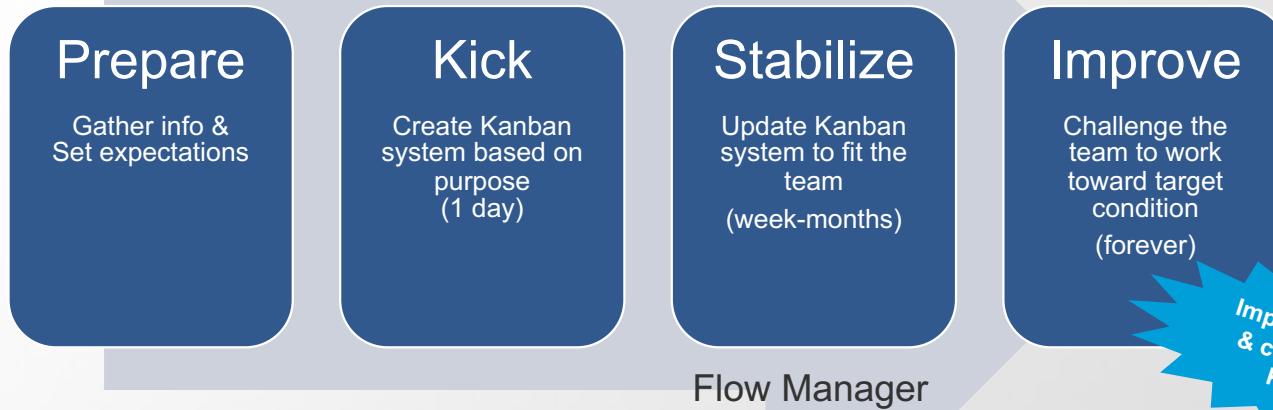
- Teams are too busy

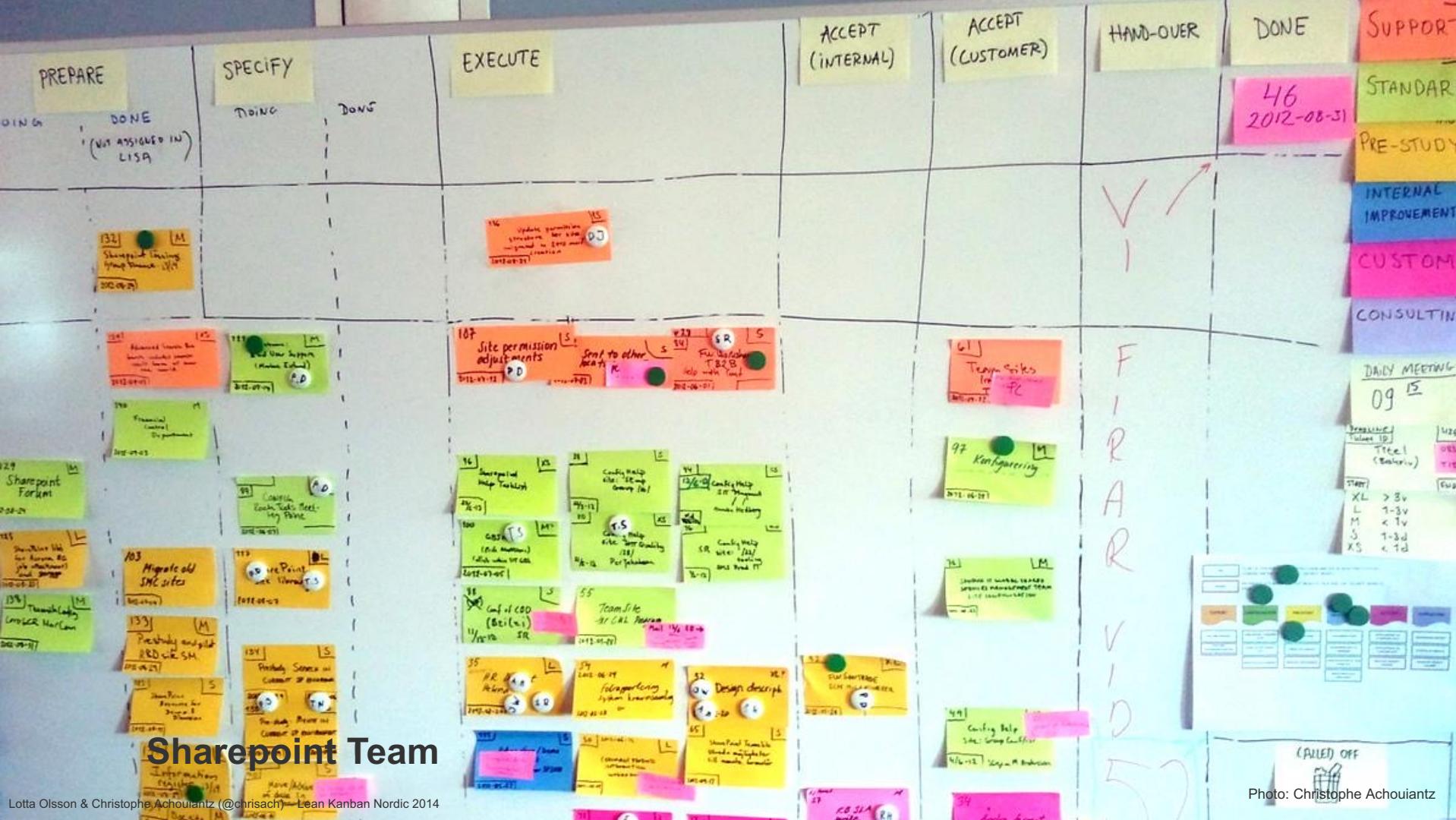
## Minimal Coaching

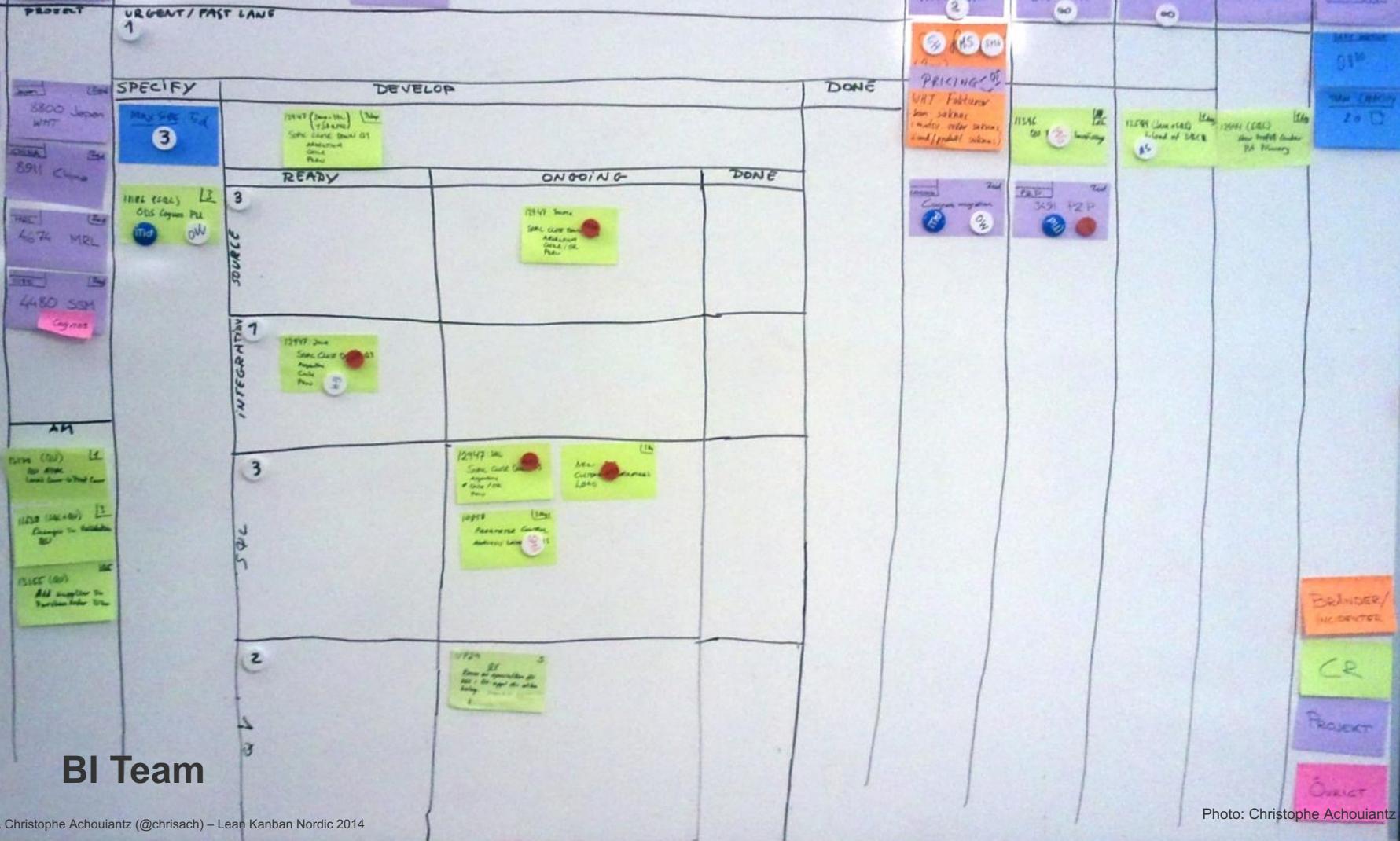
- Have few coaches



# The "Kanban Kick-start" Concept







Next

Plan

Do

Check

Act

Done

URGENT & HIGH

NORMAL

LOW

TRUE AT SONGHORSE  
DEMO  
10 weeks, hard mode

PRACTICES IN CHARGE PLAT FORMATION  
10/10

Education Plan Change mgmt  
10/10

Implementation Plan Change mgmt  
10/10

Implementation Plan Change mgmt  
10/10

Change Request Implementation  
10/10

Change Tool Implementation  
10/10

Process Design  
Learned Design  
10/10

Process Design  
10/10

Update Incident  
AM pages  
10/10

Preparation Meeting  
Advanced Kanban  
For M3  
10/10

WEEKLY MEETING  
SCrum Archetype  
10/10

Notes Development  
Way of working  
10/10

INCIDENT &  
PROBLEM SPOTLIGHT  
10/10

INCIDENT &  
PROBLEM SPOTLIGHT  
10/10

SOURCE  
INFORMATION

SLA  
SW-LEADER

KNOWLEDGE BASE  
FOR IMPLEMENTATION

IMPLEMENTATION  
SUPPORT TEAM  
10/10

NOTES  
10/10

NOTES  
10/10

Dec AM Model  
PL and Stakeholder  
Entitlements &  
SLA support

New GV tool  
test & expansion

Knowledge Map  
for So  
IT project

Process for IT  
Change Requests

Change Tool  
10/10

Globalize Incident  
Tool IP

Define scope for  
Clean Up of Web  
Sys Dev on the  
internet

Service Home  
SLA DB

WEEKLY  
SUPPORT WORKSHOP  
Reg Boardroom  
10/10

KICKSTART  
DISTRIBUTED TEAM  
10/10

COORDINATE  
IMPLEMENTATION  
10/10

UNDERSTAND  
NEED FOR SUPPORT  
THE SLA, 10/10

Demand Forecast  
and SLA

MANAGE 1/1  
IMPLEMENTATION  
10/10

Working with  
procurement Plan

Global Delivery  
of AS  
Close project 10/10

Write spec and  
order changes 10/10

SLA DB  
10/10

Text description  
AM Model  
(read prep work)

Analysis of  
the availability  
KPI

Config of SharePoint  
(Deployment &  
Procurement  
Support & control)

US  
Demand Forecast  
and SLA

Monday

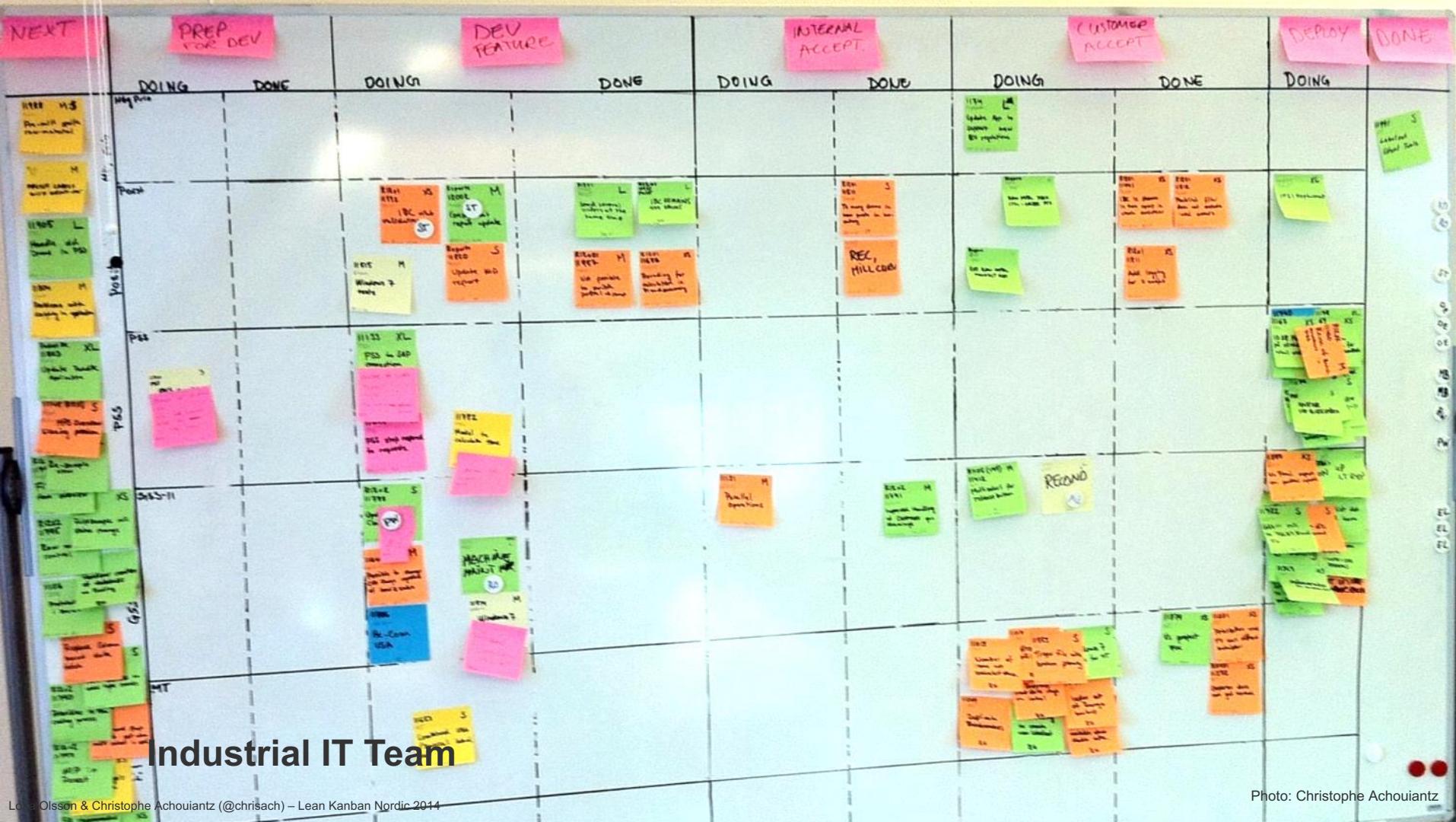
Tuesday

Wednesday

Thu

Friday

Support Team



## Industrial IT Team



HR Team

NEXT

MAINFRAME DEVELOPMENT - TUBE

| Development  |       |  |      |   |       |      |   |       |      |  |       |   |
|--|-------|--|------|---|-------|------|---|-------|------|--|-------|---|
| Prepare for Development                            |       |  |      | Development   |       |      |   | Test  |      | Get Internal acceptance  |       | Get Cust...                                 |
|  | Doing | Customer A...  | Done |   | Doing | Done |   | Doing | Done | Doing  | Done  |   |
| AM 13449 - Regenerera routing och prisfilie        |       |  |      | AM 13318 - Add an administrative week   | UB    |      | AM 12856 Traceability on WO from Mett to Customer | PS    |      | P - 11530 MES Rollout cold                                       | AT GO | AM 3400 Check Chargeanalyse för B+B Order   |
| AM 13435 - PMI Data to PIX                         | CH    | r-2143469 Investerar i Kostnadsestimering - Leveransv eckat från OFO | UN   | AM 13230 - Change UPLADAG when new ULEV   | UN    |      | AM 13387 - Prepare batch job for new year         | MW UB |      | P - 11530 PIX PC-DIAL EXCHANGE                                   | CH    | P-11530 Tools Extrusion                     |
| AM 13380 - Extend OP-text for PROIND               |       |  |      | AM 7343 Lagerlägg vid provstatus = 5  | UN    |      | AM 13352 - Estimate retirement of the system STD  | UN    |      | P - 11530 S4395J0 Replanning Millorder                           | GO    | AM 3400 S4974J3 Charge-kontroll app.        |
| AM 5764 - Utökning av UltraJuhormal                |       |  |      | AM 13494 - Re-test VJ - Error when printing   | VJ    |      | AM 13289 - A new limit-field PROVSTAVS DIMENSION  | VJ    |      | P - 11530 S4451J0 upload rapps Program S4934J0, S4934J2, S4934J3 | AT    | AM 13020 - Error due to scrolling           |
| AM 13495 - Routine to back weighing-in             |       |  |      | I - 2172885 PAM - OFO Problem Samtillskrivning                                      | GO    |      | AM 11288 - PROH. YD, ID eller Tversatt            | VJ PS |      | P - 11530 S0226J0  | GO    | AM 10306 - Retur Steel                      |
| AM 13280 Shut down PC-PIS                          | CH MN |  |      | I-2172668 Kolla etikett dimensioner saknas  | AT    |      |   |       |      | P - 11530 Z010111  | GO    | P - 11530 S4ZB210 GO                        |
| AM 2556 - Flytta procedurer från period till månad |       |  |      | Cisco TelePresence Movie  |       |      |   |       |      | P - 11530 Text-Changes S4345J0, S4304A0, S4147J0, S0850JAB,      | GO    | AM 4464 Automat rev/lever/inspect/signature |
|  |       |  |      |  |       |      |   |       |      | P - 11530 S0239J0  | GO    | MES - CANCEL long operation/text            |
|  |       |  |      |   |       |      |   |       |      | P - 11530 Z010011  | GO    | P - 11530 S4334A0 GO                        |
|  |       |  |      |   |       |      |   |       |      | P - 11530 S0290J0  | GO    | P - 11530 S4461J0 GO                        |
|  |       |  |      |   |       |      |   |       |      |  |       | AM 5323 Archive Workorder                   |

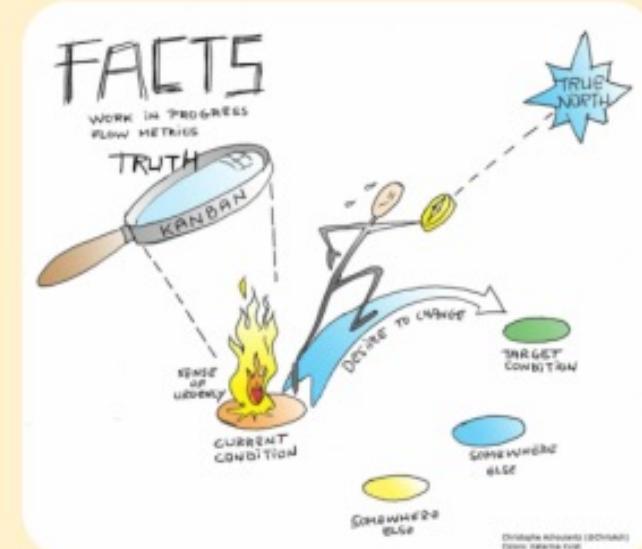
## Mainframe Team

# The Kanban Kick-start Field Guide

Get it at: <http://leanagileprojects.blogspot.se/>

## The Kanban Kick-start Field Guide

*Create the Capability to Evolve*



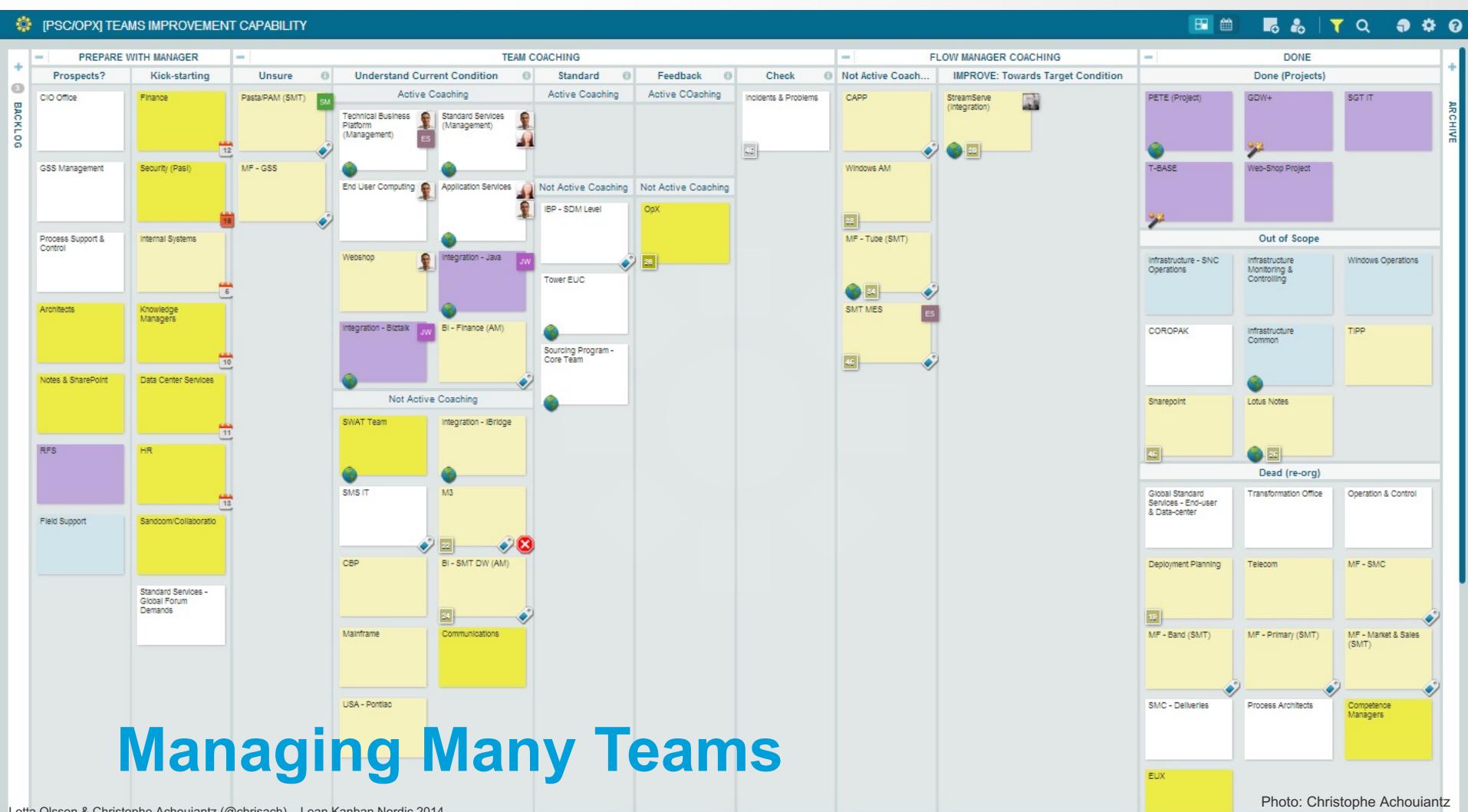
Sandvik IT

Version 1.0 (20130416)

Christophe Achouantz - Lean/Agile Coach - [Sogel](#) (@ChrisAch)

Johan Nordin - Development Support Manager - [Sandvik IT](#) (@JohanNordin)





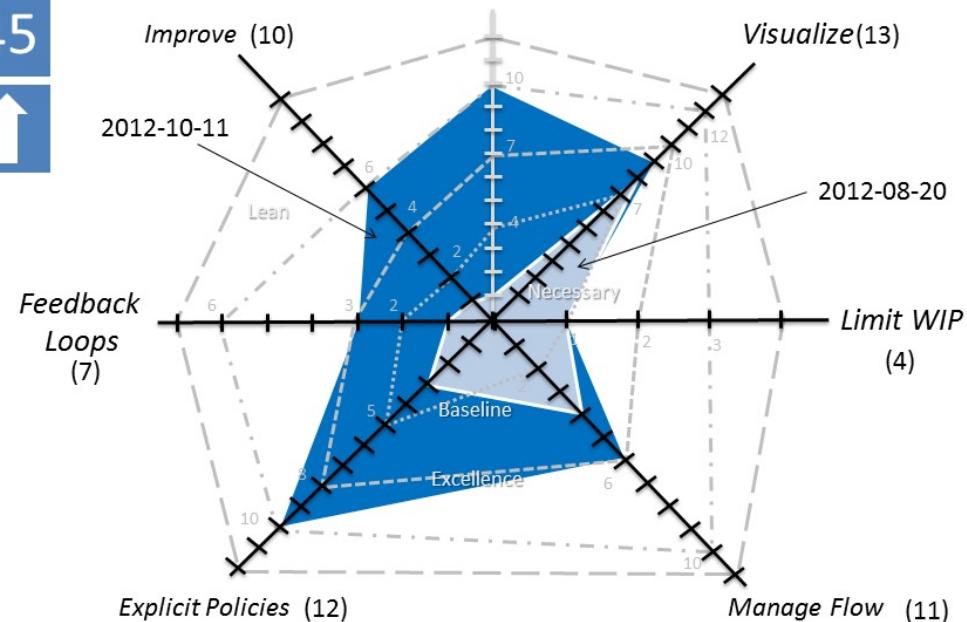
# Kanban Assessment

|                                       |  |
|---------------------------------------|--|
| <b>Visualize</b>                      | <ol style="list-style-type: none"> <li>Work list, according to current policies</li> <li>Visual representation of work</li> <li>Workflow ("process", way of working, value stream)</li> <li>Current Team Focus (areas)</li> <li>Blocks</li> <li>Capacity Policies (Def., Off., capacity allocations, etc.)</li> <li>Ready for "pull" sense, without overburden (overload)</li> <li>WIP limits</li> <li>Multiple independent workflows with pull system</li> <li>Inter-area collaboration principles</li> <li>Inter-area collaboration, technical, market, etc.</li> <li>Capacity education</li> </ol>  |
| <b>Manage Flow</b>                    | <ol style="list-style-type: none"> <li>No WIP limit, but commitment to finishing work over time (e.g. by reaching a WIP level like "100% Done" or "90% Done" on the team)</li> <li>Definitions of Work Type and Work Item (template)</li> <li>Who does what, who manages the flow &amp; owns queue</li> <li>Staff selection / work assignment (individual focus)</li> <li>Definition of work items</li> <li>What, when and how to estimate work size</li> <li>Links to external systems (CRM, ERP, etc.)</li> <li>How to select &amp; prepare items for the "flow" queue</li> <li>Quality policy (customer requirements, etc.)</li> <li>Continuous process improvement strategy</li> <li>Capacity education</li> </ol>   |
| <b>Implement Feedback Loops</b>       | <ol style="list-style-type: none"> <li>Daily Team stand-ups</li> <li>Feedback from clients, customers, other groups are regularly updated on the current situation</li> <li>Managers and use tools like the "gauge" (regularly updated on the current situation)</li> <li>Feedback from partners</li> <li>Regular measurement and discussion about Financial performance</li> <li>Regular measurement and discussion about Quality (KPIs, defect rates, customer satisfaction, etc.)</li> <li>Regularly measure customer more often than step 1</li> </ol>   |
| <b>Improve</b>                        | <p><b>Effects (seeing Evidence of...)</b></p> <ol style="list-style-type: none"> <li>Team members have a better understanding the big picture (team level vs. local situation)</li> <li>Develop team spirit (helping each-other to complete work, respect others)</li> <li>Focus on improving blocks</li> <li>Focus on improving blocks rather than starting new work</li> <li>Team is working on the "right" thing/right prioritization</li> <li>Less waste (less rework, less errors, less time, cost, effort, time)</li> <li>Team has the motivation to drive improvements</li> <li>Local process evolution (standardization, workflow, policies, WIP limits)</li> <li>Increase depth of Kanban implementation</li> <li>Process or management policy evolution as a result of mentors</li> <li>Improved focus or management policy due to operational review</li> </ol> |
| <b>Depth of Kanban Implementation</b> | <p>Team: _____ Date: _____</p>   |

More info at: <http://leanagileprojects.blogspot.se/>

## Team X

### Effects (12)



# Result so far

|                                     | <2 m | 3-5 m | 6 m |
|-------------------------------------|------|-------|-----|
| Better prio of work                 | X    | X     | X   |
| Less task switching                 | X    | X     | X   |
| Better team collaboration           | X    | X     | X   |
| Less stress                         | X    | X     | X   |
| Better collaboration with customers |      | X     | X   |
| Customer more involved              |      |       | X   |
| More focus on quality               |      |       | X   |
| Shorter lead times                  |      |       | X   |

Source: "The effects of Kanban in software development teams  
- A study of the implementation at Sandvik" R.Ericsson & A.Granlöf 2011



# Impact of Better Collaboration



Photo: Christophe Achouiantz

Lotta Olsson & Christophe Achouiantz (@chrisach) – Lean Kanban Nordic 2014



# Other Notable Impacts



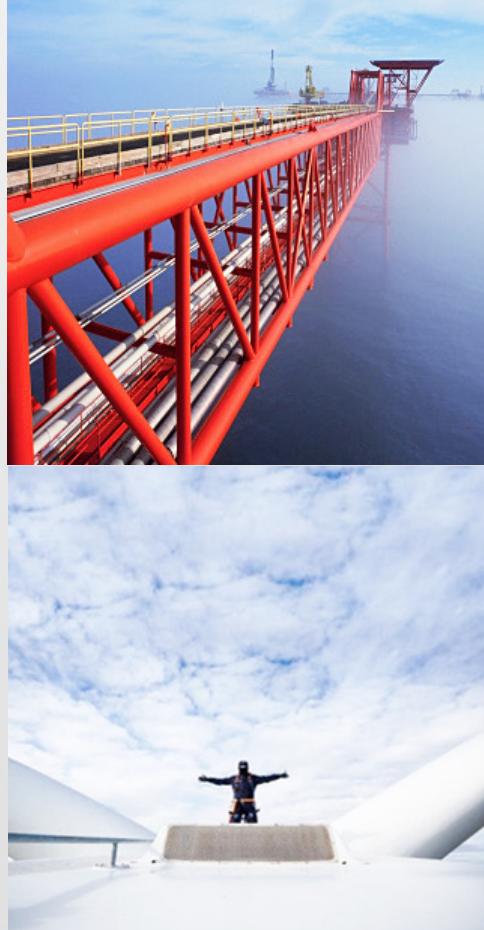
## Other Notable Impacts

Install a *habit*  
of  
*transparency*  
and  
*improvements*  
in the org.



# What happens now?

- Build on the foundation we have
- Improve
- Next step – scale up



SANDVIK

# Thanks!

Kanban Kick-start Field Guide & Kanban Assessment

<http://leanagileprojects.blogspot.se/>

Get more info about the Sandvik Journey on InfoQ:

<http://www.infoq.com/articles/kanban-Sandvik-IT-1>

<http://www.infoq.com/articles/kanban-Sandvik-IT-2>

