

Agile aðferðir hjá Marel

Vísindaferð Agile netsins 1. september 2011

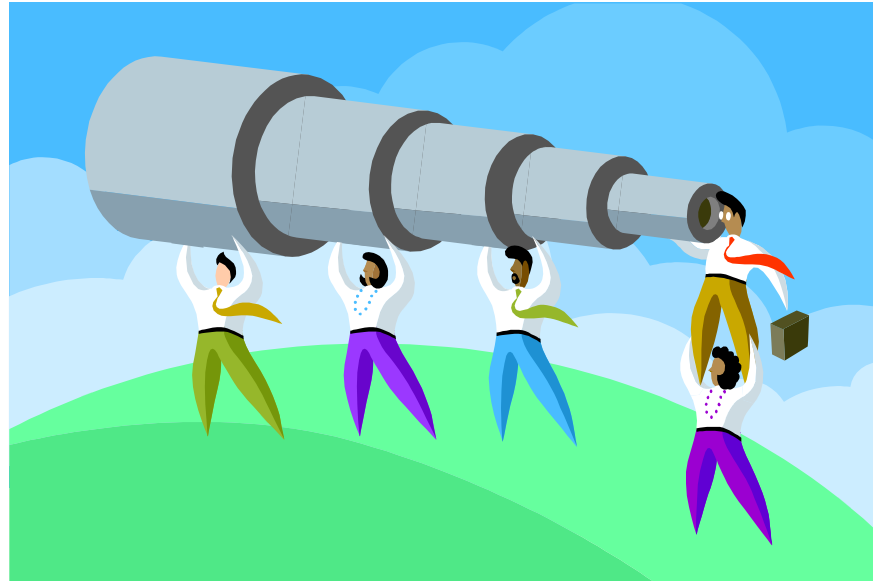
- Hrafnkell, Ingólfur, Jón Þór, Rósa, Valur



Agenda

- About Marel (Jón Þór)
- The transition (Rósa)
- The point of view of the developer (Hrafnkell)
- *Sight seeing, more refreshments (ca. 17:15)*
- The point of view of the Product Owner (Valur)
- Kanban in Solutions and technical support (Ingólfur)
- The point of view of the manager (Jón Þór)
- Questions and discussions

Marel's Vision



- ***“To be the customers’ choice in supplying integrated systems, products and services to the fish, meat and poultry industries.”***

Fish processing has come a long way...



- Hygiene
- Efficiency / cost
- Working environment



**We make the technology to
change this...**



...this



Í dag er Marel alþjóðlegt



- ERP
- Warehouse
- Distribution



Innova

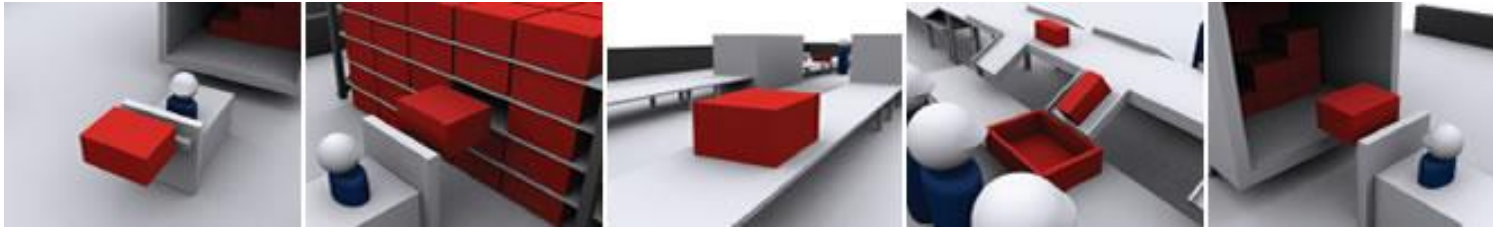
- Data Capture
- Monitoring
- Equipment control
- Integration between equipment

SensorX

Pluto

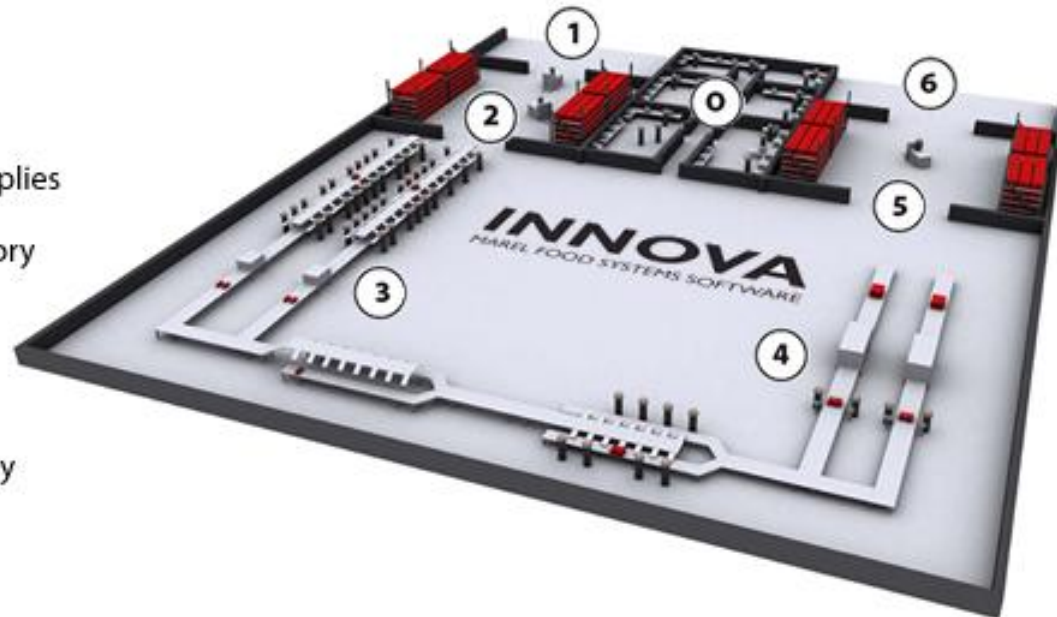


Intelligent Production Control



Total Process Control

- ① Offices
- ② Receiving of the supplies
- ③ Raw material inventory
- ④ Processing
- ⑤ Packing
- ⑥ Final goods inventory
- ⑦ Dispatch



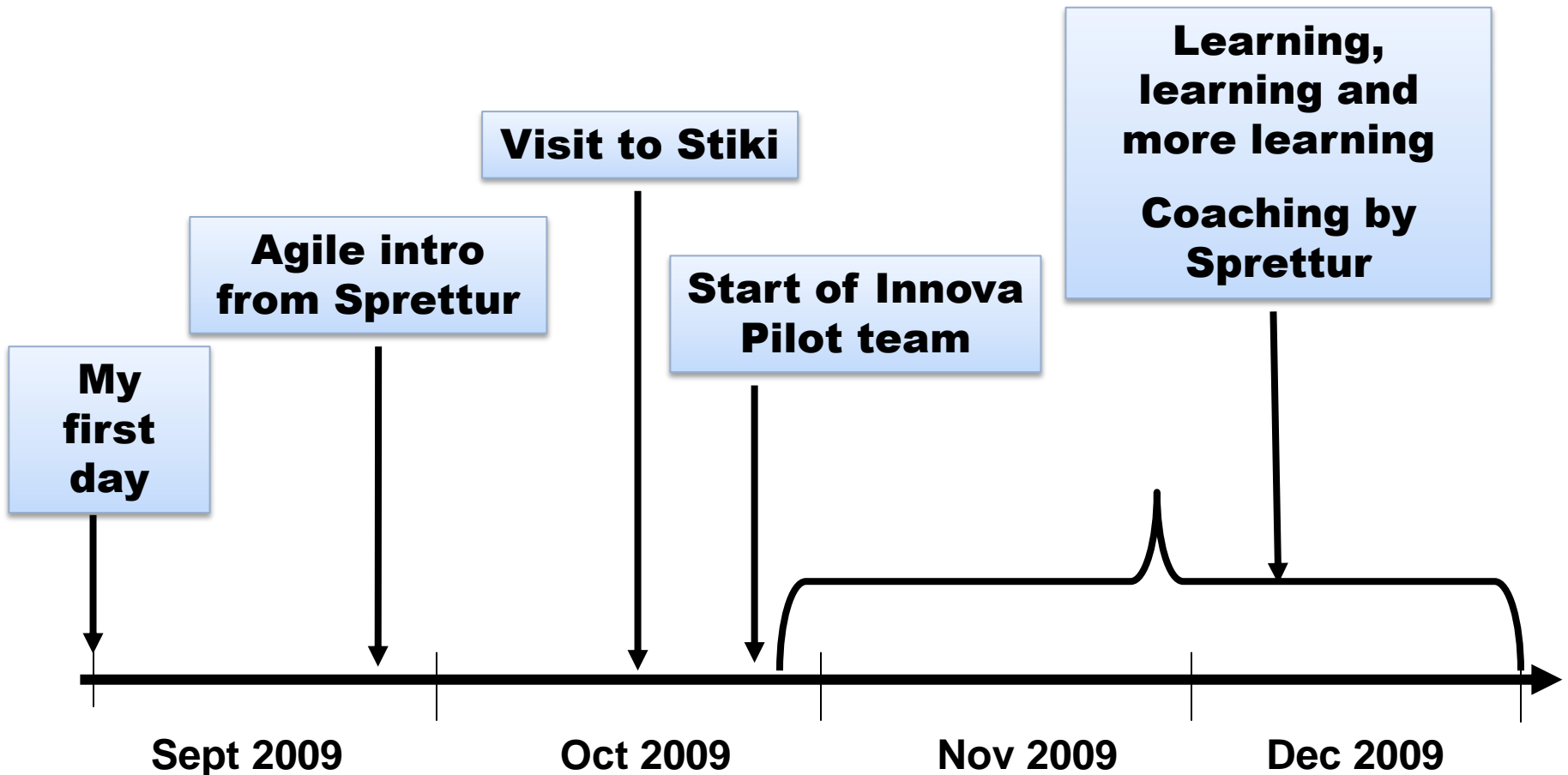
The transition

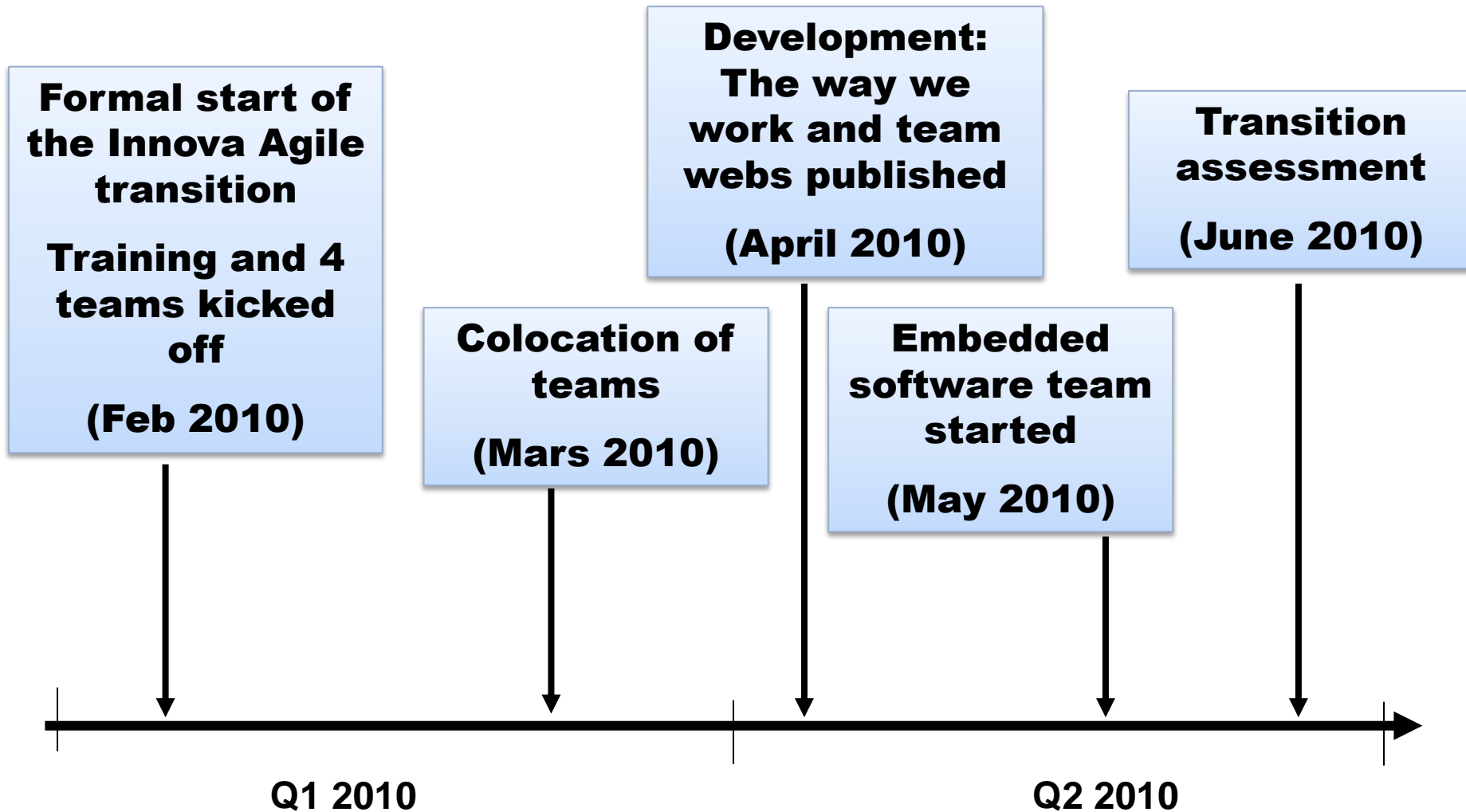


Agile/Scrum, Kanban and Lean now

- Product Development: 6 Scrum teams
 - Innova 4 teams (Iceland, Aarhus, Boxmeer)
 - Pluto
 - SensorX
- Product Development: 1 Kanban team
 - SensorX Mechanical Design
- Service: 1 Kanban team
 - Solution and technical Support Innova
- Manufacturing: Lean (5S and more)
- Procurement: Lean

A Timeline - last 24 months.....





**Passed ISO9001
external audit
for the software
process
(August 2010)**

**Innova Vision
and roadmap
workshop
Release plan
for all teams
(Sept 2010)**

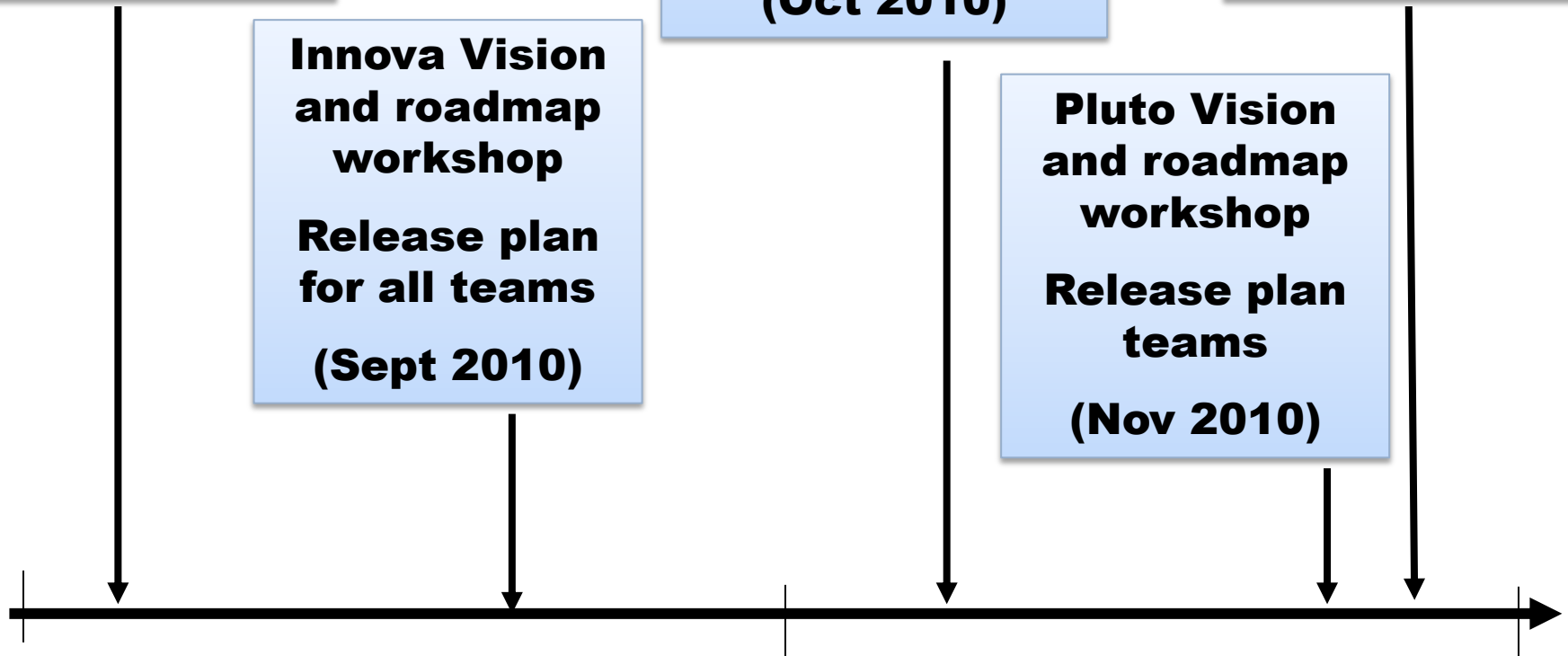
**All
ScrumMasters
Certified – Jeff
Sutherland in
Aarhus
(Oct 2010)**

**Pluto Vision
and roadmap
workshop
Release plan
teams
(Nov 2010)**

**One more
Embedded
software team
started
(Nov 2010)**

Q3 2010

Q4 2010



Start of Kanban team for Solutions and Technical Support (Jan 2011)

**SensorX Vision and roadmap workshop
Release plan for team (Feb 2011)**

Agile Center established (Mars 2011)

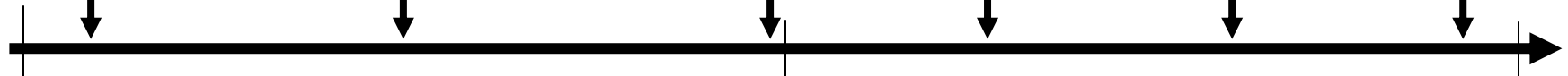
Start of Kanban team for Product Center Inspection (May 2011)

More Agile training (May 2011)

One more Innova team started in Boxmeer (June 2011)

Q1 2011

Q2 2011



**Start of two more
embedded teams
(Sept and Oct 2011)**

**Start of
Kanban team
for Industry
Center Fish
(Nov 2011)**

**Another Agile
Guru!
(Nov 2011)**



Q3 and Q4 2011

The Agile transition - Critical success factors

Leadership support

Coaching (Sprettur), training and continuous learning

An Internal “Champion” to help drive the transition

Starting with a pilot team

Transparency ; All Work Visible

What also helped

- Majority of developers wanted more teamwork
- The fact of Marel getting bigger
 - Something had to be done!
- Setting up “a project” with goals (why change?)
- Creating short term wins
- Visibility – everything on the walls
- No use of tools in the start
- Reading together!

What also helped

- Agile estimating and planning
- Vision, roadmapping and release planning workshops
- Fixed release cycles
 - Getting constant feedback
- User stories

- We followed “the Scrum book” almost like slaves
 - and we are still doing it???
- Knowing Kotter and laws of change management

What was difficult?

- Many locations – distributed... and languages
- Product owners overworked
- Teams realizing that they are self organizing and self managing
- Big backlogs – high WIP – pressure on teams
- Knowledge – still need more...
- Impediments – do we see them?

- We need more Agile/Scrum gurus!

Next in...

- We still need more Agile training
 - Product Owners, ScrumMasters, teams, the business
- We need better technical practices - Software craftsmanship!
 - Testing
 - Continuous Integration
- We need more coordination between teams
 - not a new thing....
- Technical infrastructure for embedded software
 - Linux, C and C++
 - Build servers and one environment for all embedded development
- Deliver faster – shorter release cycles

Next in...

- We need to increase company awareness
 - The transition was in fact more bottom up than top down...
- Make Agile stick in the organizational culture

- We will be starting two more Scrum teams soon
- Kanban will be used more

- Agile and Scrum is no silver bullet
 - software development this is never easy!
 - but challenging and you should have fun doing it!

Manifesto for Software Craftsmanship

– raising the bar

Not only

Working software

but also

Well-crafted software

Responding to change

but also

Steadily adding value

Individuals and
interactions

but also

A community of
professionals

Customer collaboration

but also

Productive partnerships



Vision and roadmap workshop

6.0.9
OCTOBER 12

- * Væðum fundurttíning
- * Stærðum að vinna og uppbyggingu teymismætuma
- * Hösum fyrir vel unnin verk
- * Sameiginleg skuldbinding og ábyrgð á sprettum
- * Opin og hnitmiðjuð samstarfi

Kobinn Vals
Kristín
Branter
Egill
Lauri
Rauk Kuro
Róbert

Team Working

Forseti
Stjórnir og leiðsögendur eru ábyrgðir á að tryggja að teymið hafi allan þörfuð faglegan stuðning og aðgang að þörfuð tækjum.

Liðsmenn
Liðsmenn eru ábyrgðir á að tryggja að teymið hafi allan þörfuð faglegan stuðning og aðgang að þörfuð tækjum.

Stjórnir
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marel

Goals for project "Tiger"

- Easier access for all stakeholders to INNOVA development
- Better prioritization of features with focus on customer needs
- Better planning and a fixed product release cycle
- More effective knowledge sharing
- Bring sales-, solution/service- and development teams closer together
- More efficient use of our time and resources
- More enjoyable workplace for all of us through teamwork
- Increase the INNOVA product quality

Time of Sprint Meetings for Innova Scrum Teams

| Scrum Team | Meeting Time |
|---------------|---------------|
| Scrum Team 1 | 10:00 - 11:00 |
| Scrum Team 2 | 11:00 - 12:00 |
| Scrum Team 3 | 12:00 - 13:00 |
| Scrum Team 4 | 13:00 - 14:00 |
| Scrum Team 5 | 14:00 - 15:00 |
| Scrum Team 6 | 15:00 - 16:00 |
| Scrum Team 7 | 16:00 - 17:00 |
| Scrum Team 8 | 17:00 - 18:00 |
| Scrum Team 9 | 18:00 - 19:00 |
| Scrum Team 10 | 19:00 - 20:00 |
| Scrum Team 11 | 20:00 - 21:00 |
| Scrum Team 12 | 21:00 - 22:00 |
| Scrum Team 13 | 22:00 - 23:00 |
| Scrum Team 14 | 23:00 - 24:00 |
| Scrum Team 15 | 24:00 - 25:00 |
| Scrum Team 16 | 25:00 - 26:00 |
| Scrum Team 17 | 26:00 - 27:00 |
| Scrum Team 18 | 27:00 - 28:00 |
| Scrum Team 19 | 28:00 - 29:00 |
| Scrum Team 20 | 29:00 - 30:00 |

| Team | Task | Status |
|---------|---------|-------------|
| Team 1 | Task 1 | Completed |
| Team 1 | Task 2 | In Progress |
| Team 1 | Task 3 | Not Started |
| Team 2 | Task 4 | Completed |
| Team 2 | Task 5 | In Progress |
| Team 2 | Task 6 | Not Started |
| Team 3 | Task 7 | Completed |
| Team 3 | Task 8 | In Progress |
| Team 3 | Task 9 | Not Started |
| Team 4 | Task 10 | Completed |
| Team 4 | Task 11 | In Progress |
| Team 4 | Task 12 | Not Started |
| Team 5 | Task 13 | Completed |
| Team 5 | Task 14 | In Progress |
| Team 5 | Task 15 | Not Started |
| Team 6 | Task 16 | Completed |
| Team 6 | Task 17 | In Progress |
| Team 6 | Task 18 | Not Started |
| Team 7 | Task 19 | Completed |
| Team 7 | Task 20 | In Progress |
| Team 7 | Task 21 | Not Started |
| Team 8 | Task 22 | Completed |
| Team 8 | Task 23 | In Progress |
| Team 8 | Task 24 | Not Started |
| Team 9 | Task 25 | Completed |
| Team 9 | Task 26 | In Progress |
| Team 9 | Task 27 | Not Started |
| Team 10 | Task 28 | Completed |
| Team 10 | Task 29 | In Progress |
| Team 10 | Task 30 | Not Started |

Innova version 5.0.6

The first sprint starts on Oct 17th 2022 and the last sprint ends October 1st 2023

Team Lighting

The sprint team responsibilities are as follows: There are three sprint teams and the team will have full supporting their members for product delivery from the sprint to the next sprint. We do support our members for the following reasons and to ensure some solution support for all. The sprint team will ensure that it is a good solution for all.

Commercial commitments

The following team projects will need more team lighting:

- Team 1
- Team 2
- Team 3
- Team 4
- Team 5
- Team 6
- Team 7
- Team 8
- Team 9
- Team 10

In addition to our product development activities we expect to achieve the following goals:

1. High the development productivity from Sprint 1 to Sprint 10.
2. High the development productivity from Sprint 1 to Sprint 10.
3. High the development productivity from Sprint 1 to Sprint 10.
4. High the development productivity from Sprint 1 to Sprint 10.
5. High the development productivity from Sprint 1 to Sprint 10.
6. High the development productivity from Sprint 1 to Sprint 10.
7. High the development productivity from Sprint 1 to Sprint 10.
8. High the development productivity from Sprint 1 to Sprint 10.
9. High the development productivity from Sprint 1 to Sprint 10.
10. High the development productivity from Sprint 1 to Sprint 10.

marel

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Jan Feb Mar Apr May June July August
 Embedded world 7-3 Mars
 RELEASE 1103
 Public service Emerging world (over 2)
 Public service Emerging world (over 2)
 Druggery test in place MARS, MARS, MARS

Jan

W1 2.9.10M 9. P.02
 W2 10.10M 26.10M
 W3 6.10M 12.10M
 W4 21.10M 27.10M
 W5 28.10M 4.11M
 W6 5.11M 11.11M
 W7 18.11M 24.11M
 W8 25.11M 1.12M
 W9 2.12M 8.12M
 W10 9.12M 15.12M
 W11 16.12M 22.12M
 W12 23.12M 29.12M

Feb

W13 6.1M 12.1M
 W14 13.1M 19.1M
 W15 20.1M 26.1M
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Mar

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Apr

W33 7.4M 13.4M
 W34 14.4M 20.4M
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 W37 5.5M 11.5M
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May

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June

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 W71 3.1M 9.1M
 W72 10.1M 16.1M
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July

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August

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STORY NOT STARTED IN PROCESS CHK. DÖNER

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|---|--|--|---|---|---|---|---|

- SYSTEM PROGRAMMER (1)
- APPLICATION PROGRAMMER
- GUI DESIGNER
- PLC PROGRAMMER
- SERVICE TECHNICIAN
- PLANT SUPERVISOR
- FLOOR WORKER
- 3RD PARTY SYSTEM
- PLANT TECHNICIAN

Common Photo Tasks

- Documentation
- Support
- Set up targets
- Set program control

100% Lat 8 Sprint Release Date March 28 2013

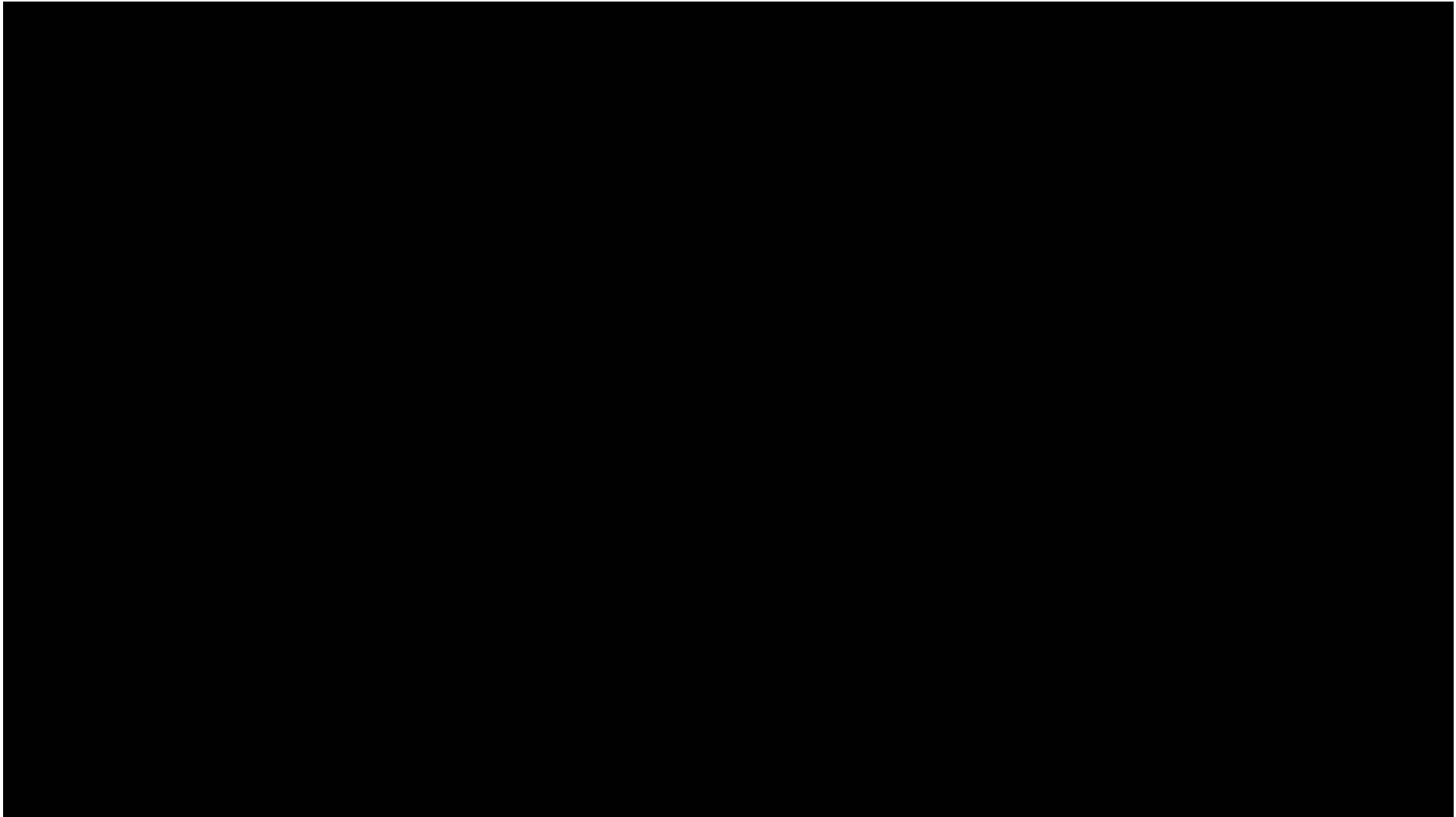
Percent Done / Acceptability Goal

SPENT SCALE up
 * While you scale from
 * Value 10 of Budget into
 * Design / Deliverables

INDEPENDENT ACCEPTANCE CRITERIA PARA

SUPERNAN: HAKUR

- Storage
1. Fix → APP
 2. Dynamic in re
 3. Add → a
 4. New

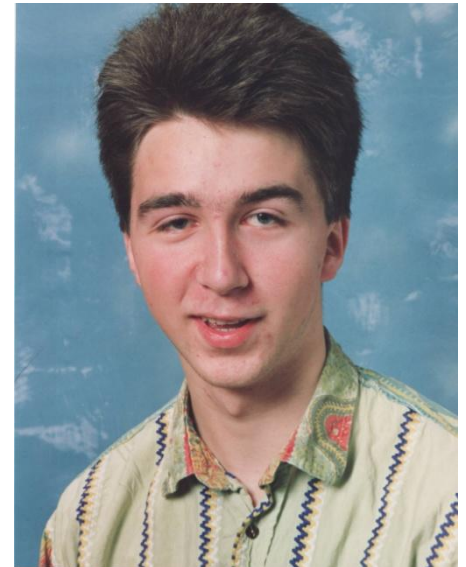


The Developer



Hrafnkell Eiríksson

- Rafmagns- og tölvuverkfræðingur frá HÍ 1999
- Master frá DTU í merkja- og myndvinnslu
- Þróað röntgentækni og tæki frá 2001
 - Keypti "XRays for Dummies" á Amazon þegar ég byrjaði
- 2ja barna faðir
- Radíóamatör og fiktari
- 10 ára starfsafmæli í dag



SensorX elevator pitch

For **Fish, Poultry and Meat** processor who need to **control product quality** the SensorX product is an **inline x-ray inspection system** that **finds bones, measures fatcontent, weight and shape.**

Unlike our competitors the SensorX product is a **total system solution**, has the **best detection & measurement technology** and can **withstand the harsh factory environment.**



SensorX: Varan og teymið

- Tækni og tæki til "online" gæðaskoðunar og -stjórnunar matvælahráefna
 - Bein og aðskotahlutir
 - Fitu/kjöthlutfall
- Verkefnið nær aftur til 2001, tók flugið 2007
- Um 200 SensorX tæki í notkun í heiminum
 - 100 eftir að Scrum var tekið upp
- Gerum meira en að forrita
 - Sjálfvirk myndvinnsla, rauntímastýringar, viðmót véla og tækja
 - Hönnun röntgenskynjara, geislunarmælingar
 - Flestir verkfræðingar, ekki "lærðir fagmenn í hugbúnaðargerð"
 - Vinnum með vélahönnuðum, þjónustumönnum, framleiðslu, dóttur- og sölufyrirtækjum
- Teymið er á stærðarmörkum
 - Nú 5 en sá 6. að bætast við



Við flytjum hugbúnað út í gámum!



Agile umbreyting fyrir SensorX

- Byrjuðum október 2010
 - Ört vaxandi hópur
 - Þörf á skýrri forgangsröðun vegna óvæntrar mikillar sölu, vorum "of agile"
- Í Marel er Agile EKKI svar við "of formal aðferð"
- Vildum Scrum, fengum Agile
 - Ég byrjaði að líma TODO miða og raða á gluggann minn sumar 2010
 - Fyrsti backlog og release plan "soðið niður" úr þessum miðum
- Fyrsta release plan uppgjör tækniskuldar
- Næstu release plön meira og meira um nýja featura
 - Erum enn að vinna á tækniskuld

Hvað er gott?

- Verkefnin framundan ljós
 - Ég veit hvað ég verð að gera næsta árið amk! (Release plan)
- Teymið losnar undan beinu áreiti kúnna, þjónustu, sölumanna...
 - Product owner og backloggur eru stuðpúði
- Teymið er (meira) cross functional
 - Næst á dagskrá er GUI saga, alveg sama hvað þú ert "góður" í GUI
- Burtu með skilrúmin! Nálægð manna
 - Teymisfundur == stólum snúið 180
- Hvatinn til að klára
 - Ekki verið að grauta í mörgu samtímis
- Umbótaáherslan
 - Stöðugar umbætur byggðar inn, ekki átak og áhlaupsverkefni
- "Keep it simple"
 - Miðar, miðar, miðar – engin management verkfæri
- ScrumMaster sem þorir að "pönkast" í teyminu

Hvað er erfitt?

- Demó
 - Kúnnar erlendis, fjarfundir "heyrirðu í mér núna", tungumála-stirðleiki
 - Bestu demó fást með nálægð og í hóp þar sem traust ríkir
- Dreifing hugbúnaðar
 - Scrum hvetur til að gefa út oft og jafnvel snemma
 - Matvælaværksmiðjur illa nettengdar. Þjónustumenn á ferðinni. Infrastrúktúr til dreifingar og uppfærslu ekki nógu vel þróaður
 - Fullt af hugbúnaði/featureum sem kemst ekki í notkun! Sóun :(
- Klára alveg sögurnar
 - Kóða þarf að "herða". Oft ekki sett inn í næsta sprett og sögur fjara því út ókláraðar.

Hvað er erfitt?

- Frumkvæði og skapandi vinna
 - Auðvelt að "bara" fylgja planinu
 - Erfitt að segja "í dag ætla ég ekki að fylgja teyminu og áætluninni"
 - Teymi sem er matað á verkefnum finnst því ekki eiga vöruna
 - Allir á skóflunni!
- Hvatinn til að klára - Vera fagmaður
 - Pressa á að "brenna niður punkta", auðvelt að fara "stuttu leiðina"
 - Scrum hefur innbyggða umbun fyrir að klára, ekki fyrir að gera vel
 - Er rangt að innleiða Scrum án "technical practices"?
 - "Scrum makes you go fast!"
 - Kóðasafnið vex mjög hratt. Þarf að tryggja yfirsýn
 - "but refactoring now is an investment for the future / a hedge against the callable option I've "sold" by writing bad code " @Natpryce á Twitter
- Þróunarteymi í Scrum takti, ekki "hinir"
- Að láta "pönkast" í sér daglega 😊



Continuous delivery

- "If something is painful, you're not doing it often enough"
- ALLT undir version control
 - Source kóði
 - Configuration
 - Integration
 - Setup tools
- Jenkins buildserver
 - Build on commit
 - Trunk er ALLTAF tilbúinn til uppsetningar
- Sjálfvirkar prófanir skammt á veg komnar



The Product Owner

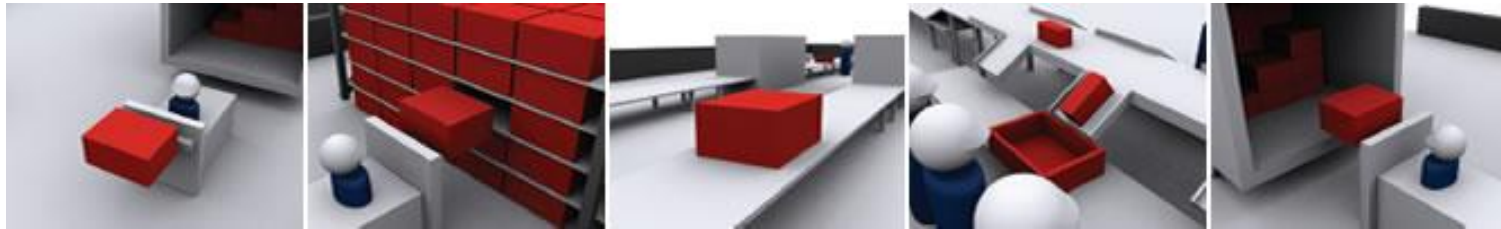


Innova today

- Innova is the 5th generation of the Marel production control system (MES)
- Over 450 Innova systems deployed since its debut in January 2008

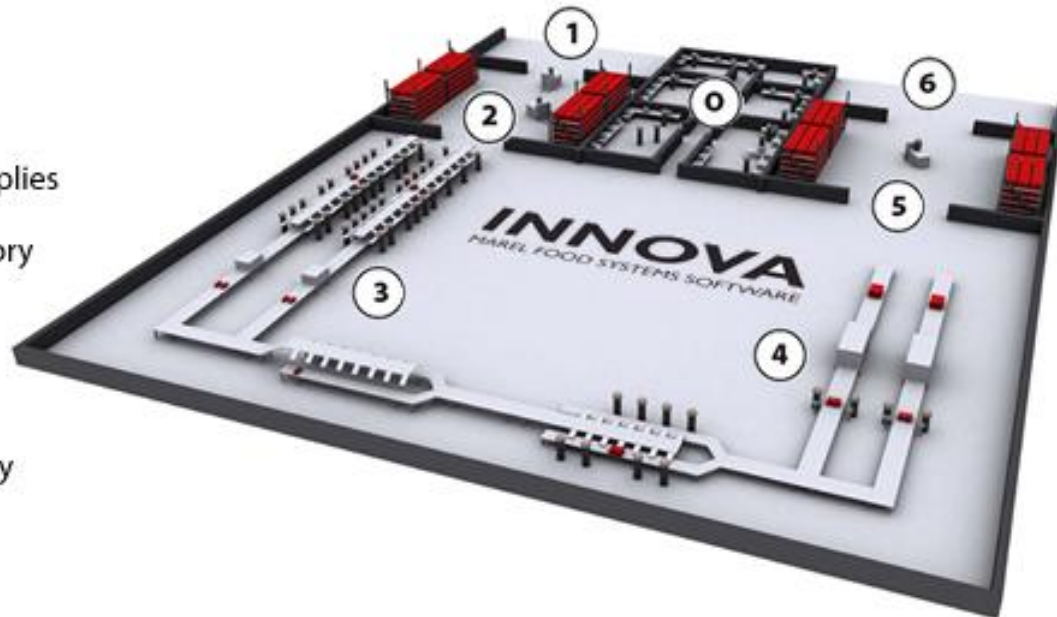


Intelligent Production Control

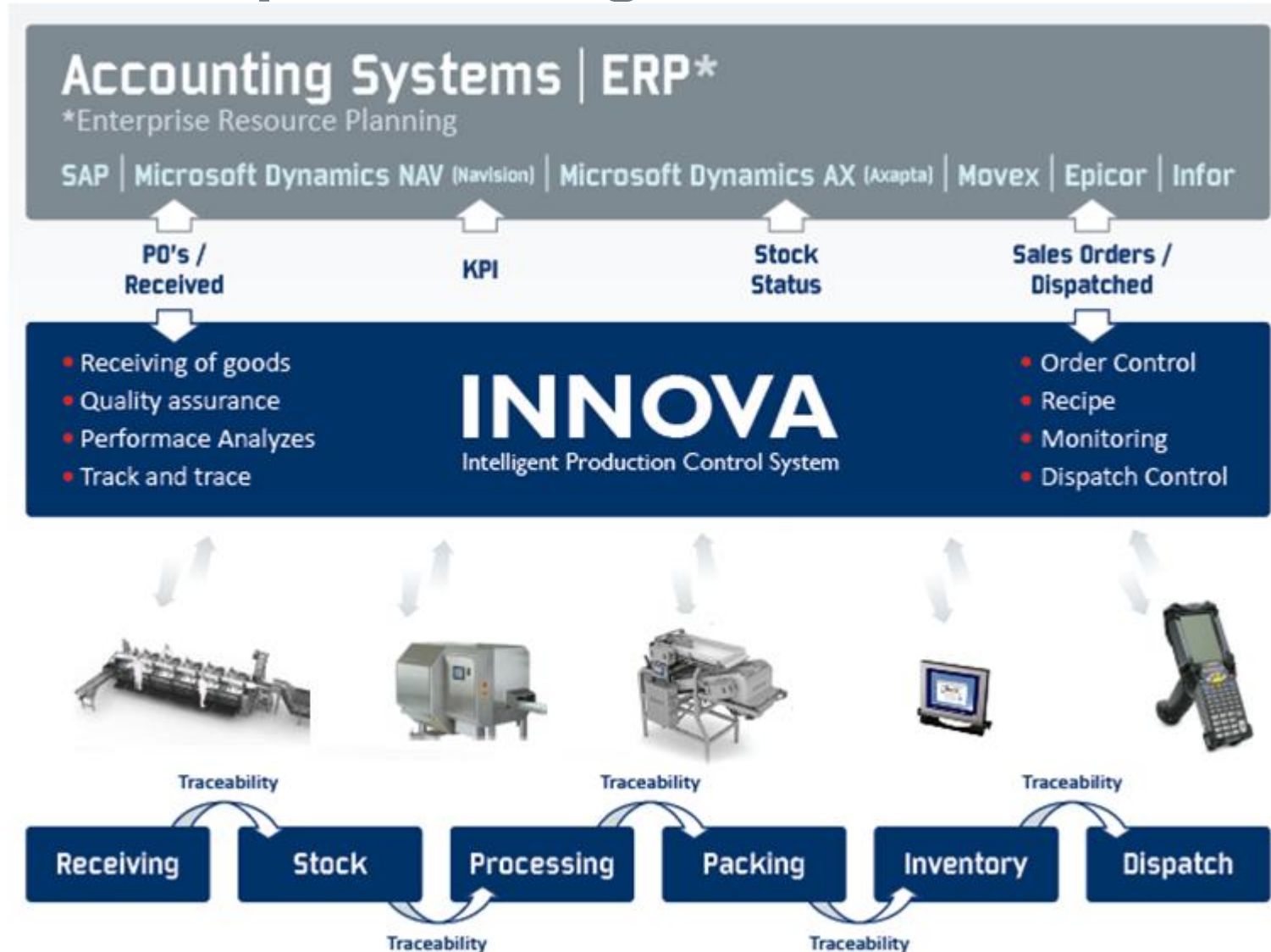


Total Process Control

- ① Offices
- ② Receiving of the supplies
- ③ Raw material inventory
- ④ Processing
- ⑤ Packing
- ⑥ Final goods inventory
- ⑦ Dispatch



Innova positioning



Innova teymin

- **Lightning** – Garðabær
- Thunder – Garðabær
- Momentum – Århus
- Twister – Boxmeer, NL



Scrum utanfrá

- Kom ekki inn í teymið fyrr en á þessu ári
- Varð var við jákvæðar breytingar utanfrá
 - Teymisvinna jókst
 - Álag dreifðist jafnara
 - Gegnsætt og skilvirkt ferli
 - Stóraukin yfirsýn



Scrum utanfrá

- Annað breyttist lítið
 - Gæði jókst ekki tilfinnanlega eða hvað?
 - Samvinna milli teyma
 - Áhugi á 3rd level þjónustu jókst ekki 😊



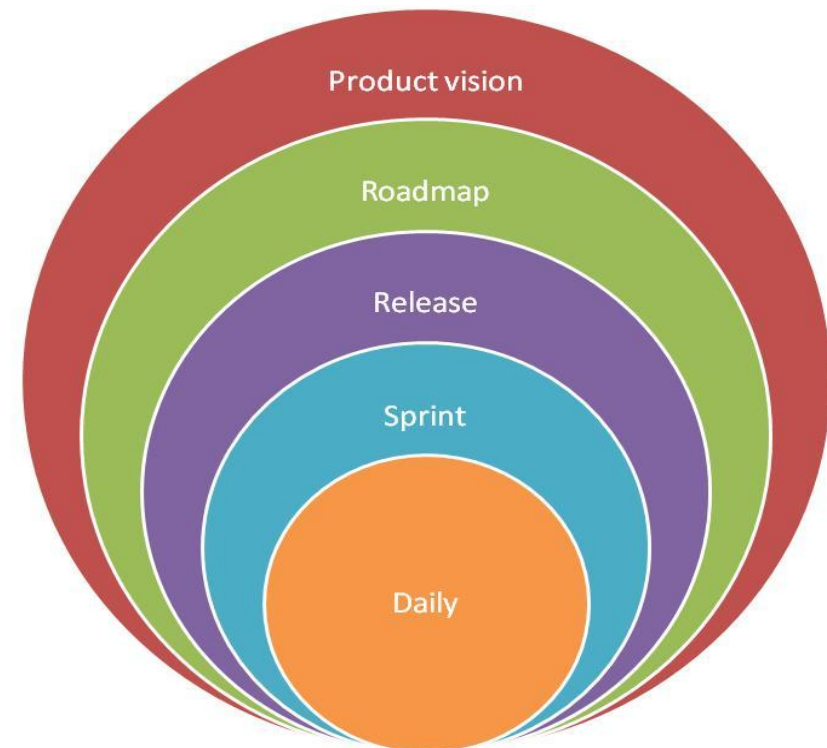
Lightning Product owner vinnan

- Þetta daglega (auðvelda)
 - Situr hjá teyminu
 - Buffer á böggið
 - Ákveður hvað fær að fara inn sem “bleikt”
 - Tryggir að allt sem er kandídat í næsta sprett sé tækt í póker
 - Samskipti við stakeholdera
 - Forgangsraðar product backlogg



Lightning Product owner vinnan

- Gera verkefni úr Road map tæk á Release planning
- Halda við tveggja ára Road mappi
 - Forgangsröðun
- Gera öllum stakeholderum til hæfis
 - 4 iðnaðarsetur
 - 11 vörusetur
 - 20 dótturfyrirtæki

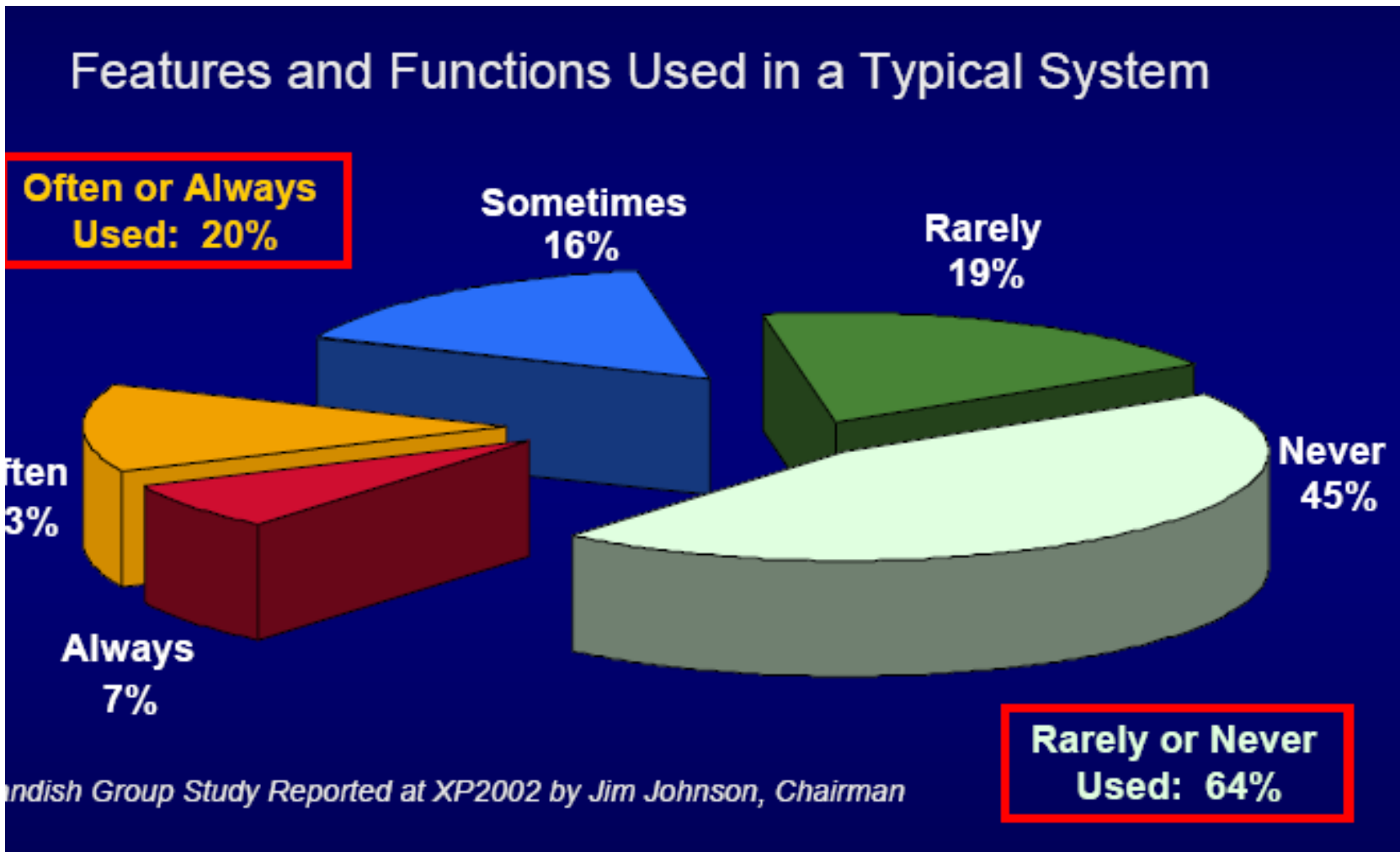


Næstu áskoranir

- Virkja stakeholdera og teymið betur í road map og backlog vinnu
- Búa til road map per vörulínu
 - Einn road map fundur ekki nægjanlegur
- Láta stjórnendur forgangsraða



The Biggest Source of Waste in Software development



The Manager



Varan Pluto

- Grunnhugbúnaður sem byggir á Linux og er notaður sem grunnur í öll þau mismunandi tæki sem Marel grúppan framleiðir
- Fjöldi mismunandi tækja skiptir mörgum tugum
- Notendur hugbúnaðarins “smíða” hugbúnað ofan á grunninn og búa til flokkara, skurðarvélar, X-ray vélar og flæðilínur sem dæmi
- Marel selur tækjabúnaðinn svo um allan heim
- Teymið byrjaði sem fikt fyrir nokkrum árum með 1-3 mönnum til að finna réttu grunnhugbúnaðarlausnina sem mundi spara fyrirtækinu sem mestan tíma í stýrihugbúnaðargerð í framtíðinni .
- Í teyminu eru nú 6 menn, flestir verkfræðingar

Umbreyting

- Verkefnin eru nú mun sýnilegri en áður
- Framtíðarsýnin er ljósari
- Við njótum meira trausts
- Tilfinning stjórnandans fyrir því að allt sé undir control er mun meiri en áður
- Trúverðugleiki, utanaðkomandi aðilar hafa trú á verkefninu því það er rekið á “viðurkenndan hátt”

Umbreyting

- Að líkindum eykur aðferðin afköst í hugbúnaðargerðinni vegna fyrirkomulagsins. Fundirnir á morgnana þar sem farið er yfir afrakstur síðasta sólarhrings gerir það að verkum að menn eru almennt meira á tánum
- Meiri líkur á “rangar leiðir” í hugbúnaðargerðinni séu fyrir upprættar
- Neikvæðar hliðar er ekki margar en til gamans mætti nefna að það sést óþægilega vel hve mikið er í raun eftir af verkefnunum!

Thank you / Dank u wel / Mange tak / Takk fyrir

