

Hvað er LEAN?

8.Maí 2014



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Deildarstjóri umbóta og öryggis

Össur

# Hver er ég?



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- M.Sc Iðnaðarverkfræði
- LBB six sigma
- Alcoa
- Össur
- Kennari við HÍ
- Lean.is
  - Lean ráðgjöf og kennsla
  - Upplýsingar
- Lean Ísland

# Hvað er lean??



- 1. Hvaða vandamál á þetta tól að leysa**
- 2. Erum við með þetta vandamál**
- 3. Mun þetta tól leysa okkar vandamál?**

# Lean thinking/Straumlínu stjórningun



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- **Koma í veg fyrir sóun** til þess að viðskiptavinurinn fái sem mest fyrir peninginn og/eða til að gera fyrirtækið samkeppnishæfara.





# Kostir Lean

- Viðskiptavinurinn fær vöruna á **réttu verði**, á **réttum tíma** og í **réttu ástandi**.
- **Betri skilningur á ferlum**— afhverju eru vandamálin að koma upp og hvernig er hægt að leysa þau.
- Ódýrt og auðvelt að innleiða

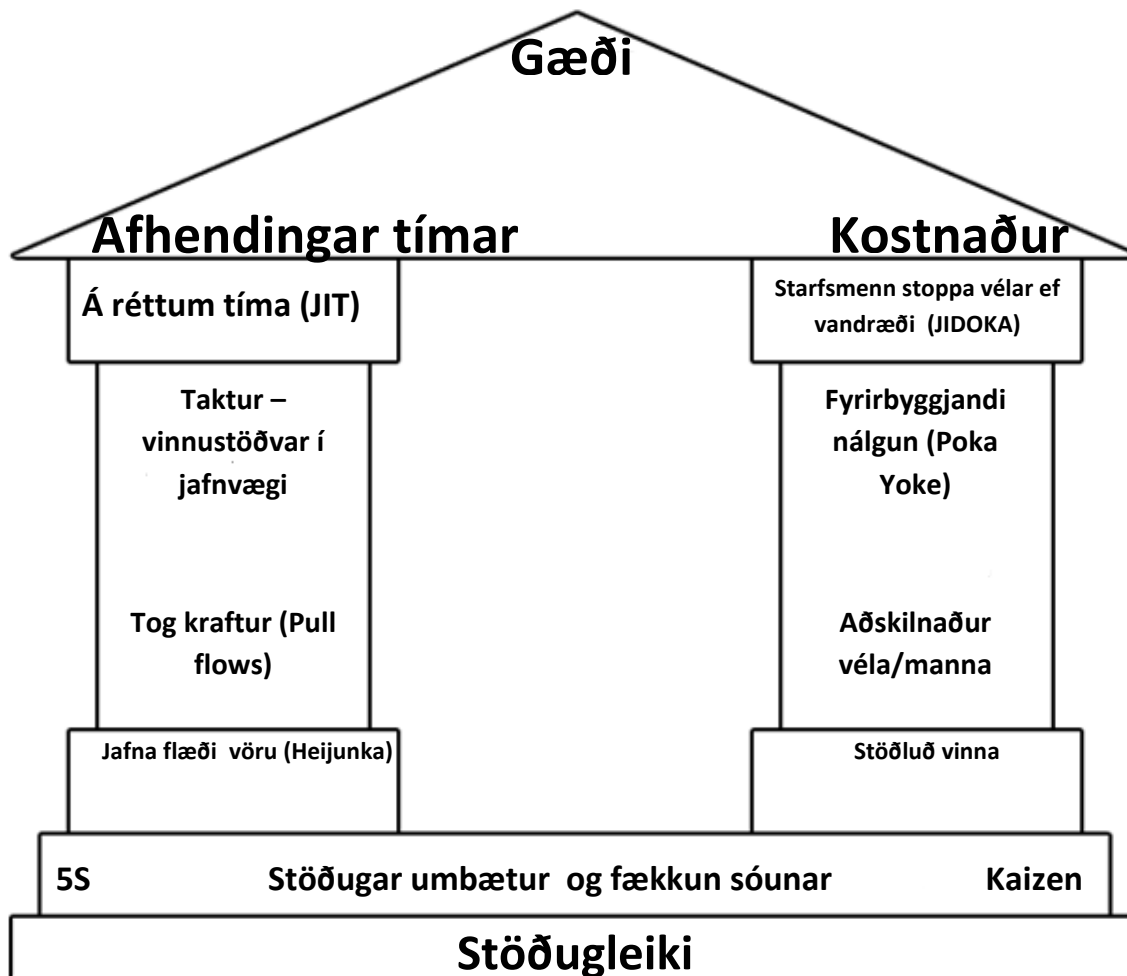
**It's a journey—of continuous improvement with perfection unattainable.**



# Lean húsið



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# 7 tegundir sóunar



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Gallar

Offramleiðsla

Flutningar

Hreyfing

Biðtími

Of mikil vinnsla

Lager

# Sjónræn stjórnun



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Við sjáum saman  
(we see together)



Við vitum saman  
(We know  
together)



Við gerum saman  
(We act together)



- Seiri
  - Seiton
  - Seiso
  - Seiketsu
  - Shitsuke
- Flokka**  
**Allt á sinn stað**  
**Hreinsa**  
**Staðla**  
**Viðhalda**



Sort



Set in order



Shine



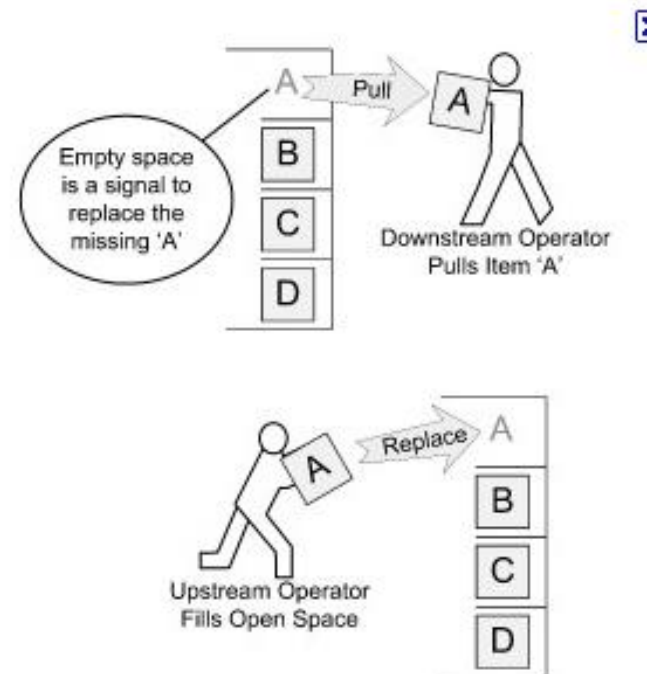
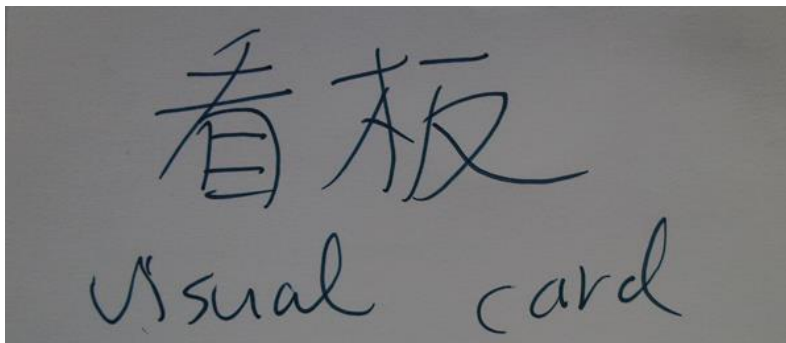
Standardise



Sustain

# Kanban

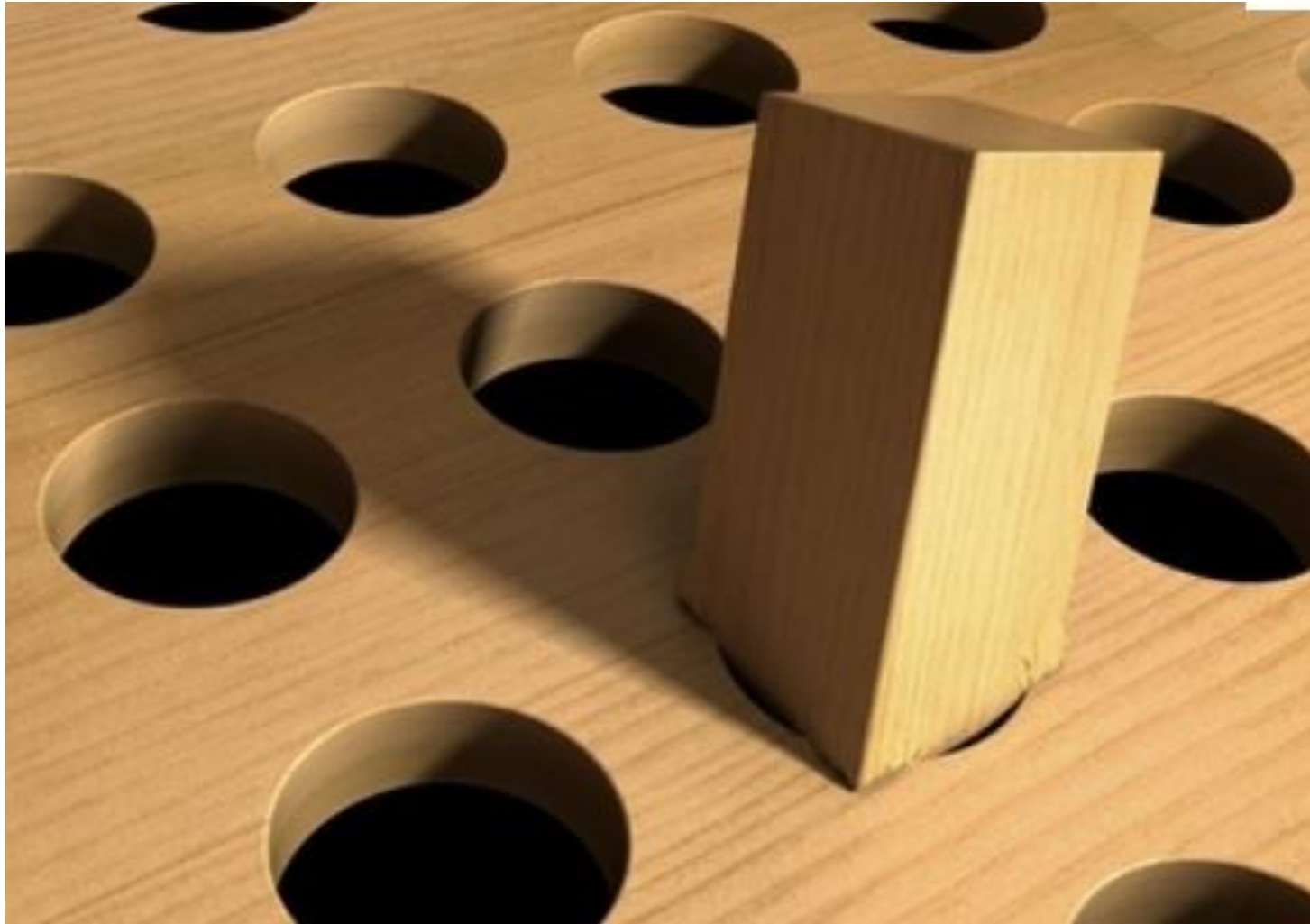
- Kan þýðir visual (sjónrænt)
- Ban þýðir card or board (spjald/tafla)



# Poka Yoke



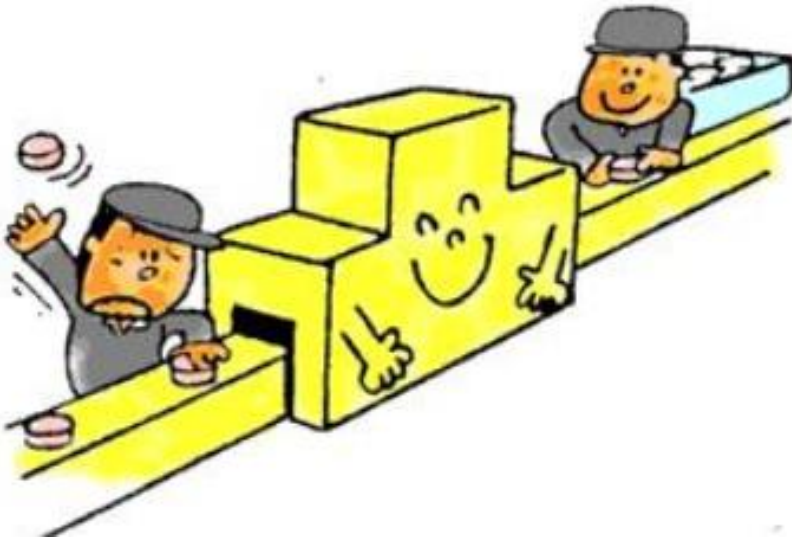
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# Jidoka



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# Lean office

- Er það hægt?
- Walk through vs. Talk through
- Það eru ferlar á skrifstofum
- Öð

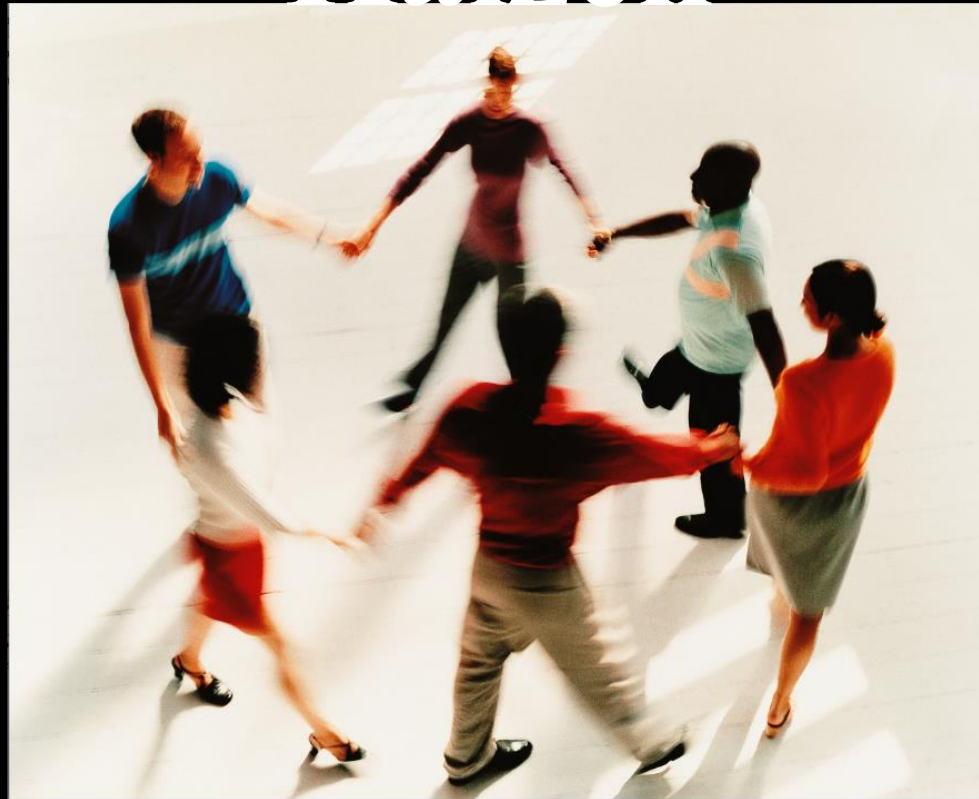


# Kaizen - verkefnastofa



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## Kaizen



**Continuous Improvement where our employees are part of the change**



# Fasar í 3-5 daga kaizeni



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Skipuleggja  
2-4 vikum fyrir

Undirbúningur  
2-4 vikur fyrir

Þjálfun  
2-4 vikur fyrir

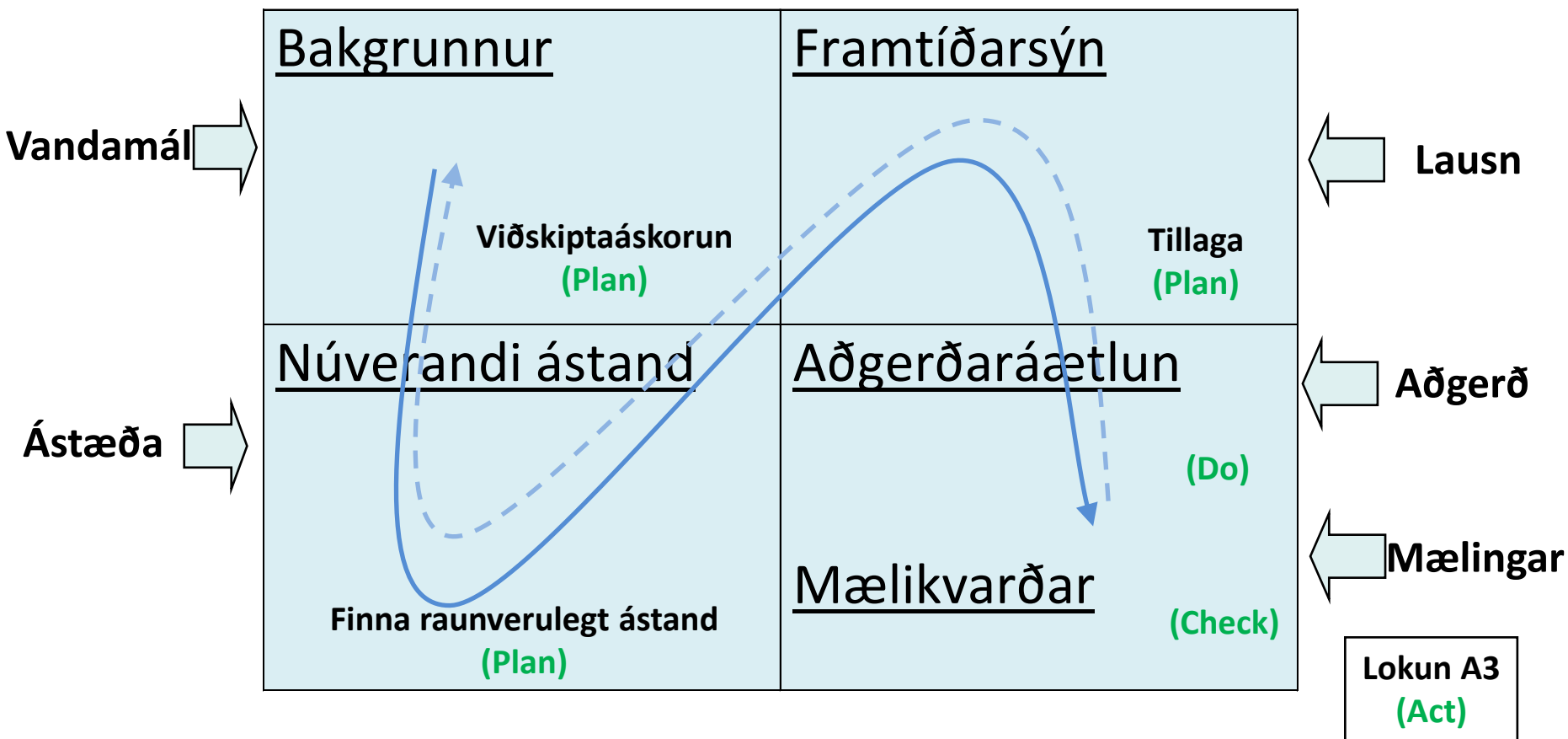
Breytingar  
3-5 dagar

Eftirfylgni  
30/60/90

# A3 er saga á einu blaði



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# One piece flow



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# SMED Kaizen



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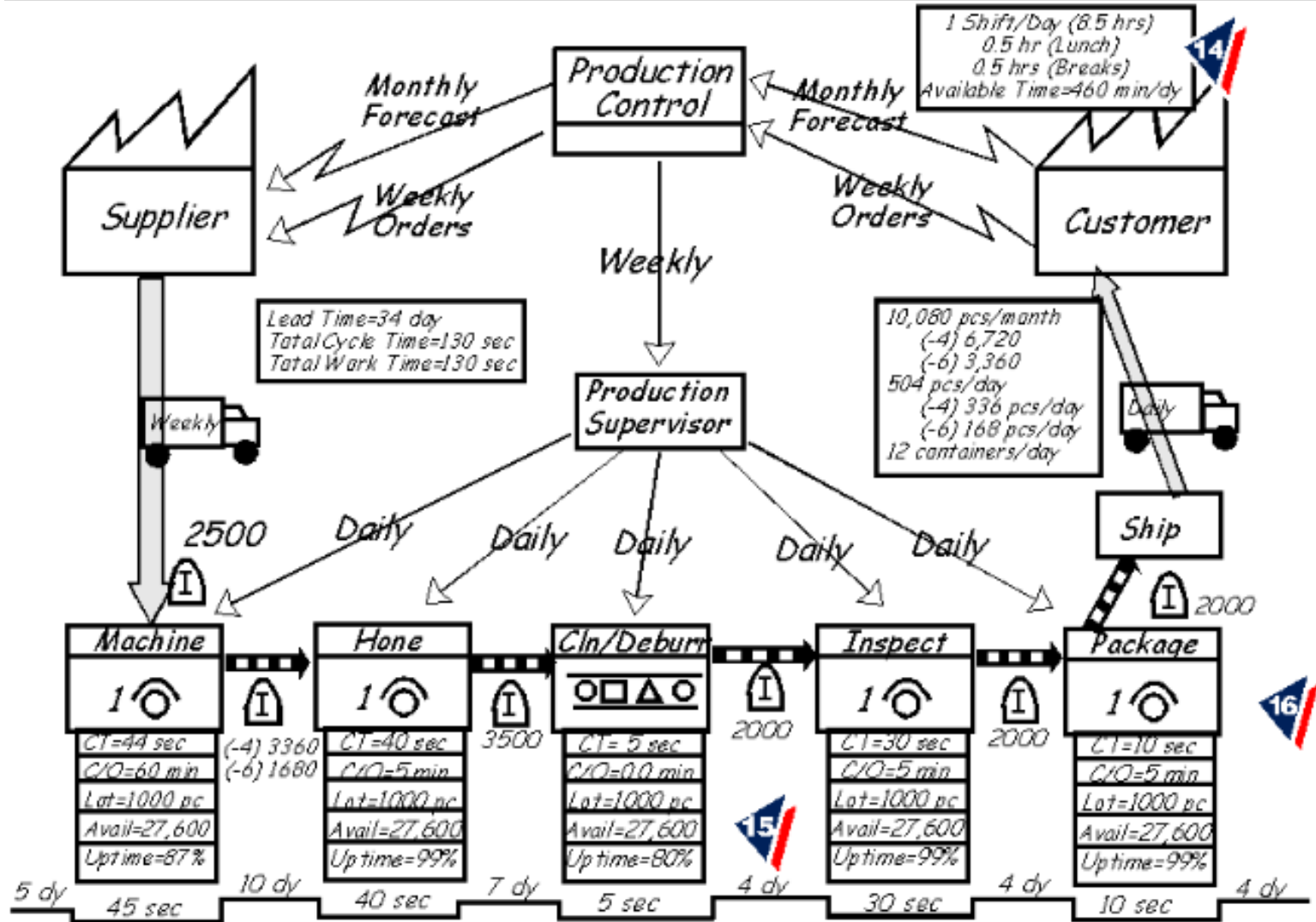
- Til þess að geta haft lotur minni og farið nær one piece flow þá þarf að minnka uppstillitíma.
- Það er hægt að gera með SMED viðburði
- SMED: Single minute change over



# Virðisgreining – value stream mapping



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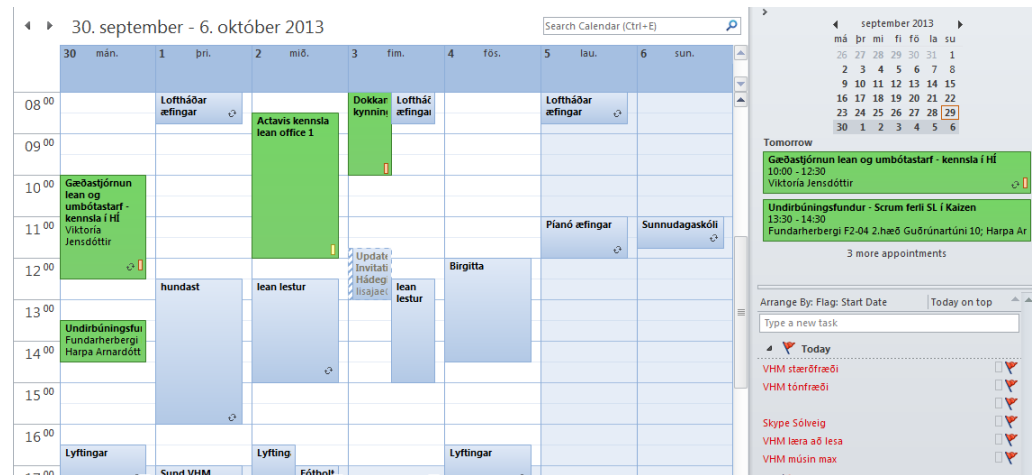


# Önnur verkfæri



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- Stöðluð vinna
- Jöfnun á vinnu (work balance)
- Heijunka
- Hoishin Kanri
- Yokoten
- Kata
- Tillögukerfi
- Rannsókn vandamála
- Hringur Ohno's
- O.s.frv. O.s.frv.





# Innleiðing



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- Einhver verður að eiga verkefnið
- Stuðningur frá yfirstjórn nauðsynlegur
- Passa að lofa ekki upp í ermina á sér



# Þjálfun starfsmanna



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- Nauðsynlegt að þeir þekki þau verkfæri sem þið viljið innleiða
- Læra mest með bóklegri og verklegri þjálfun
- „Learn by doing“



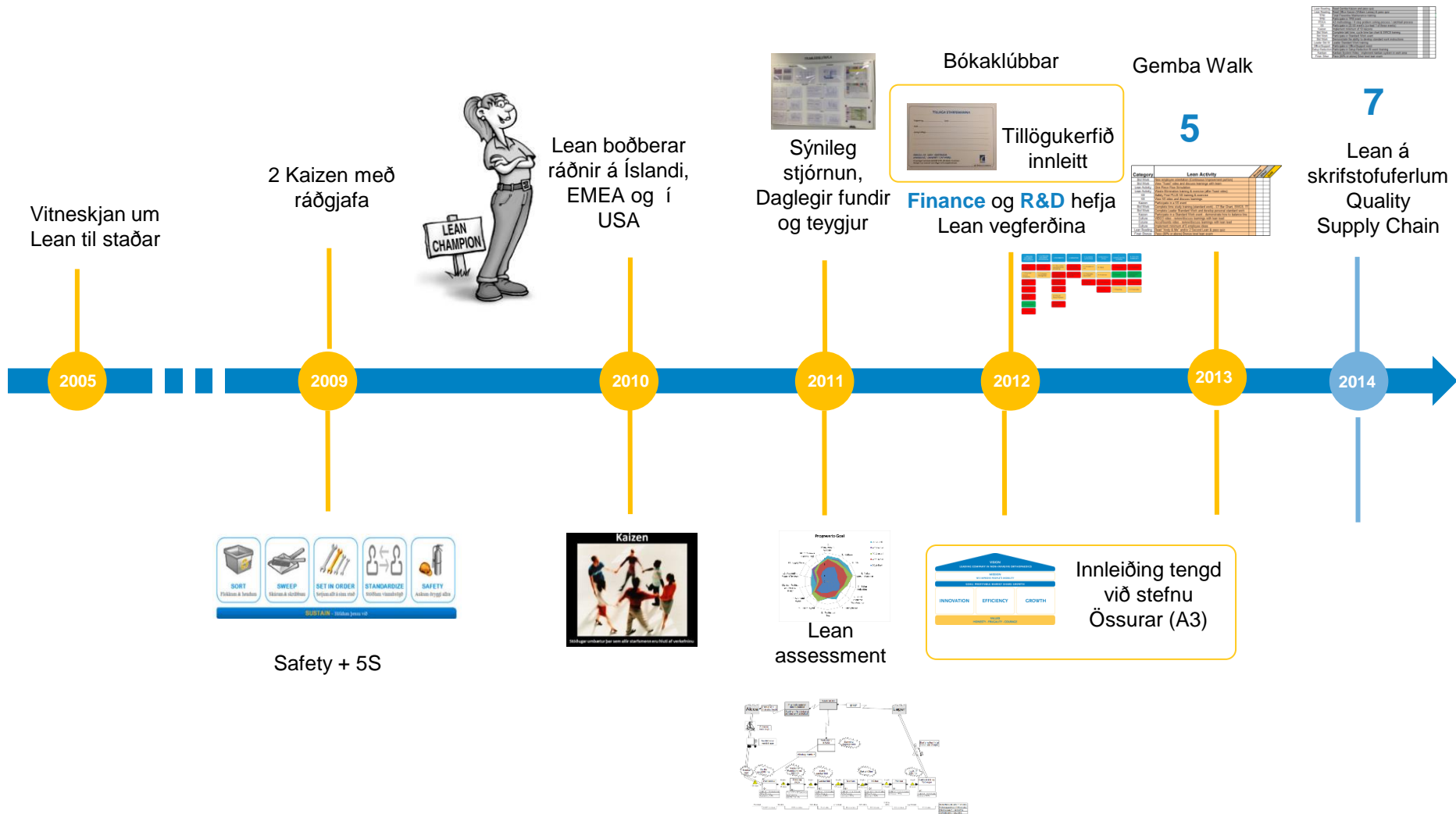
LEAN VEGFERÐ  
ÖSSURAR



# LEAN VEGFERÐ ÖSSURAR TIL DAGSINS Í DAG



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# LEAN SKÓLINN



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- Brons, silfur og gull
- Í dag erum við byrjuð með brons skóla
  - 20 manns í skólanum
- Brons skólinn er í ca 6 mánuði
  - Lesum saman bókina Andy and me
    - Tom verkstjóri í bílaframleiðslu
    - Gengur mjög illa og næsta skref er að loka verksmiðjunni
    - Hefur samband við Andy sem er Lean meistari
  - Horfum á nokkur kennslumyndbönd
  - Förum vel yfir verkfærin
    - Safety + 5s
    - 8 tegundir sóunnar
    - VSM
    - Kaizen
    - A3
- Viljum virkja sem flesta

Category	Lean Activity	Bronze	Silver	Gold
Lean Reading	Read "Andy & Me" and/or 2 Second Lean & pass quiz			
Std Work	New employee orientation (Continuous Improvement portion)			
Lean Activity	One Piece Flow Simulation			
Lean Activity	Waste Elimination training & exercise (after Toast video)			
Std Work	View "Toast" video and discuss learnings			
5S	Safety First PLUS 5S training & exercise			
5S	View 5S video and discuss learnings			
Kaizen	Participate in a 5S event			
Std Work	Complete time study training (standard work)			
Kaizen	Participate in a Standard Work event			
Culture	V/BCO video			
Culture	AccuRounds video			
Culture	Implement minimum of 5-8 employee ideas			
Final- Bronze	Pass (80% or above) Bronze level lean exam			
Lean Reading	Read Lean Lexicon and pass quiz			
Lean Reading	Read "Removing Obstacles to Safety" & pass quiz			
TPM	Total Preventive Maintenance training			
TPM	Participate in TPM event			
PDCA	PDCA training and implement 1 project with line leaders			
5S	Participate in (2) 5S event's (co-lead 1 of these events)			
Kaizen	Implement minimum of 8 kaizens			
Std Work	Complete takt time, cycle time bar chart & SWCS training			
Std Work	Participate in Standard Work event			
Std Work	Demonstrate the ability to develop standard work instructions			
Leader Std W	Leader Standard Work			
Office/Support	Participate in Office/Support event			
Setup Reduction	Participate in Setup Reduction RI event			
Kanban	Kanban System Video			
Final- Silver	Pass (80% or above) Silver level lean exam			
Lean reading	Read "Lean Thinking: Banish Waste" & pass quiz			
Lean reading	Read "Safe By Accident" & pass quiz			
Lean reading	Read "The Machine That Changed the World" & pass quiz			
TPM	Total Preventive Maintenance/OEE training			
5S	Conduct "5S" training (video series)			
5S	Coordinate (lead) a 5S event			
5S	Conduct "5S" training (video series)			
Quality	Conduct Mistake Proof training & complete a poke-yoke event			
VSM	Receive VSM training			
VSM	Participate in VSM RI event			
VSM	Demonstrate the ability to create a value stream map			
Std Work	Conduct Continuous Flow training			
Std Work	Coordinate Standard Work event			
Office/Support	Coordinate Office/Support event			
Final- Gold	Practical application/demonstration of lean knowledge			

# TILLÖGUKERFIÐ



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Starfsmaður fær hugmynd



Verkstjóri fer yfir tillögur

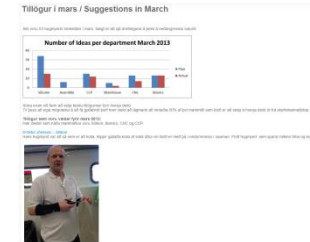
Tillaga innleidd



Starfsmaður fær gjafabréf



Frétt birtist á PLAZA



TILLAGA STARFSMANNA

Örnungun \_\_\_\_\_ Dátum \_\_\_\_\_

Nafn \_\_\_\_\_

Stöð \_\_\_\_\_

Stærð og tilfylling \_\_\_\_\_

ÖSSUR - SEI GÆVI NOSTNAÐUR AFHENDING - UMHAERFI - 3 AF HVERSU

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Starfsmaður skrifar hugmynd á tillögublað

Tillaga sett inn í kerfið



Veljum bestu tillögurnar

Vægi		Mælikvarði
10%	Gildin 3: Heiðarleiki, hagsýni og hugrekki	1 2 3 4 5
20%	Öryggi	1 2 3 4 5
10%	Umhverfi	1 2 3 4 5
15%	Hagræðing (Spara hún kostnað)	1 2 3 4 5
20%	Gæði	1 2 3 4 5
15%	Flæði	1 2 3 4 5
10%	Kostnaður við tillögu	1 2 3 4 5



9:00 - 10:00	<b>Lykilræða: Beyond Misery: Inspiring People to Improve Themselves, Their Processes and Their Organizations</b>	
	Drew Locher	
10:00 - 10:20	Kaffi og spjall	
	<b>Salur A</b>	<b>Salur B</b>
10:20 - 11:00	<b>Integration of Suppliers Improves Business</b>	<b>How is Lean Methodology Applied in a Hospital Like Landspítali?</b>
	Klaus Petersen	Guðrún Björg Sigurbjörnsdóttir
11:05 - 11:45	<b>11.5 crazy things to do around Continuous Improvement</b>	<b>Lean Governance with Holacracy</b>
	Ýr Gunnarsdóttir	Daði Ingólfsson
11:50 - 12:30	<b>Lean in the Public sector - Experiences from Sweden</b>	<b>Beyond Budgeting at Össuri</b>
	Marcus Toremar	Axel Guðni Úlfarsson
12:30 - 13:15	Hádegismatur	
13:15 - 14:00	<b>Leadership Kaizen, Releasing Time to Lead and Succeed with Lean</b>	
	Mike Denison	
14:00 - 14:45	<b>Teaching Elephants to Dance - Why the Future Belongs to the Fast and Agile</b>	



# Námskeið



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Dagsetning	Námskeið	Kennari	Tími	Salur á Hilton
19.maí	Value Stream Mapping for Administrative and Office Processes <small>-beginner, intermediate</small>	Drew Locher	8:30-17:00	F+G
20.maí	Creating Visual Management Systems <small>-beginner, intermediate</small>	Drew Locher	8:30-17:00	F+G
21.maí	<b>Lean Ísland 2014</b>		8:30-18:00	A+B
22.maí	Releasing Time to Lead Lean <small>-intermediate, advanced</small>	Mike Denison	8:30-17:00	F+G

Skráning er hafin  
[www.leanisland.is](http://www.leanisland.is)



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# WE IMPROVE PEOPLE'S MOBILITY



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