



LEAN concepts

EAHP Academy camp

30 september – 1st octobre 2016

N Curatolo

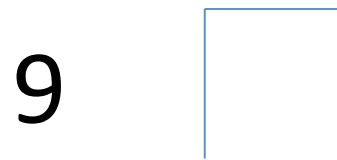
Conflict of interest

Nothing to disclose

Self assessment questions

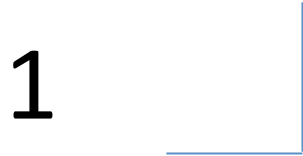
- The 5th Lean principle is « Work to perfection » ?
- 5S tool is used to level demand and implement flow ?
- Continuous flow helps making problems visible ?

Take 45 seconds to memorize these new symbols for the numbers 1 – 10



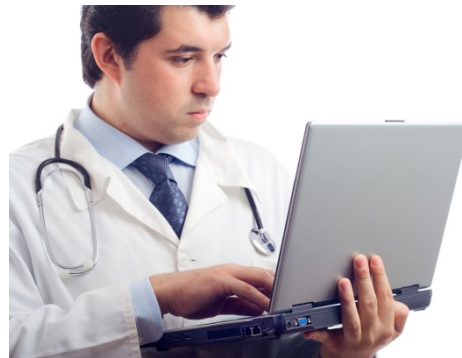
Write down as many of
the new symbols as you
can remember...

Check your answers



We are looking at the pieces rather than the whole.

This is sometimes referred to as **“Silo Thinking”**



Let's think Lean!

1	2	3
4	5	6
7	8	9

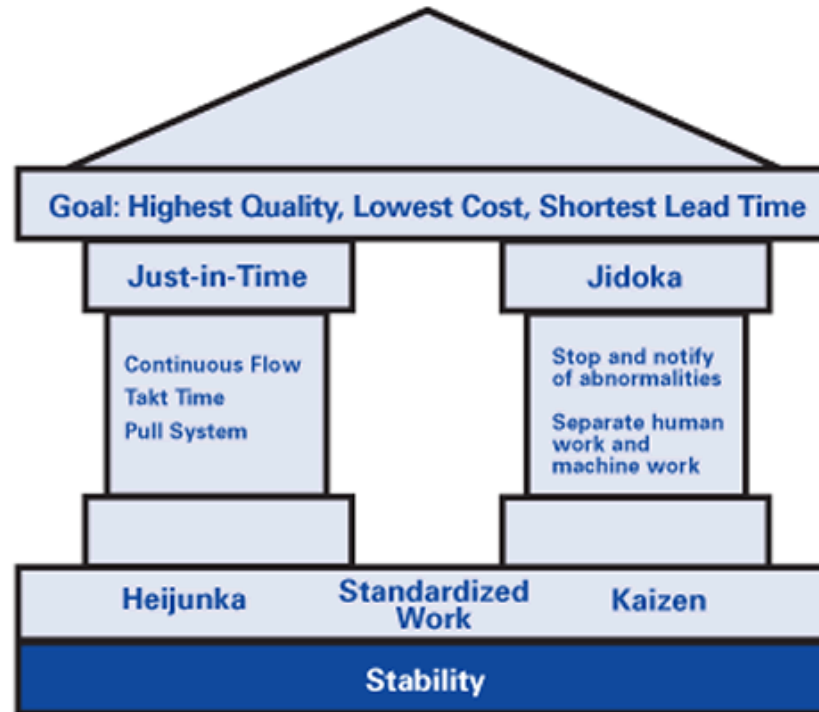
$$10 = X$$

The Lean Approach



TOYOTA

70's



Toyota production system

The Lean Approach

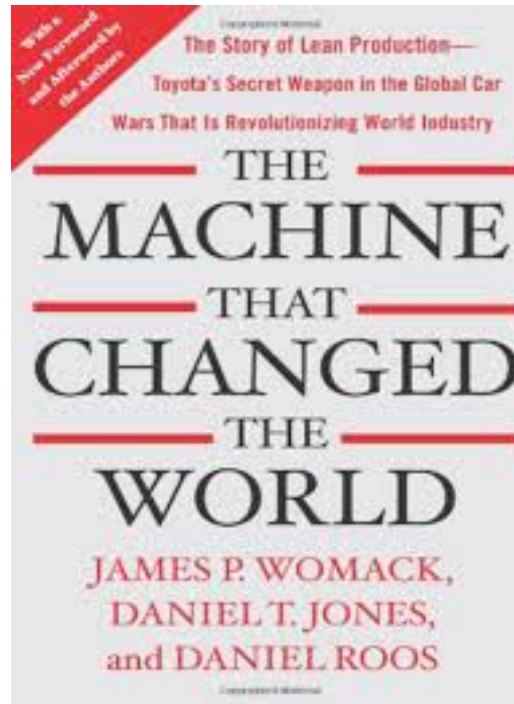


TOYOTA



80's

LEAN



The Lean Approach



90's



The Lean Approach



2000



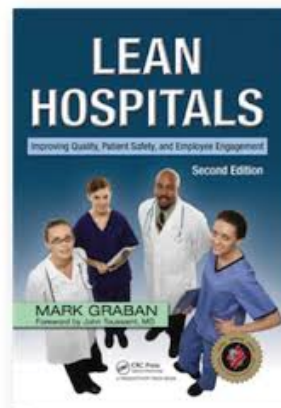
The Lean Approach



90's

To improve the *patient satisfaction*
By *involving the staff* in a process of *continuous improvement and problem solving*

Culture / principles



Techniques / Tools

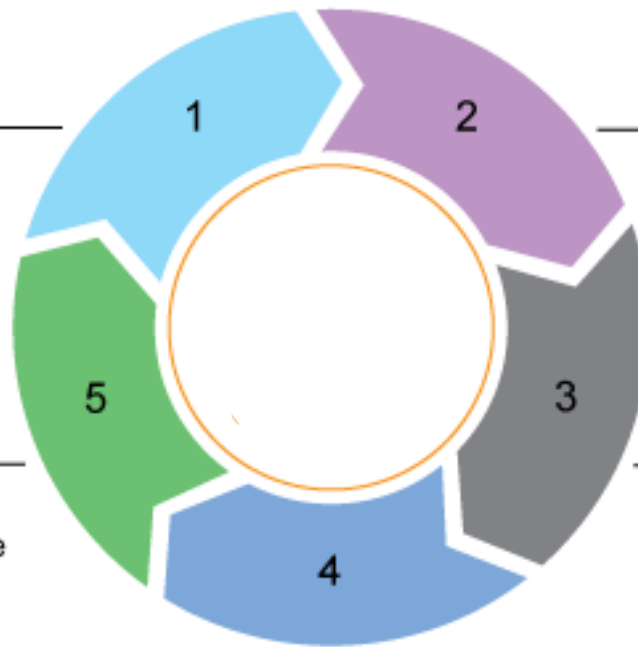
The five LEAN principles

Specify Value

Define **value** from the customers perspective and express value in terms of a specific product or service

Work to Perfection

The complete elimination of waste so all activities create value for the customer by breakthrough and **continuous improvement** projects



Map the Value Stream

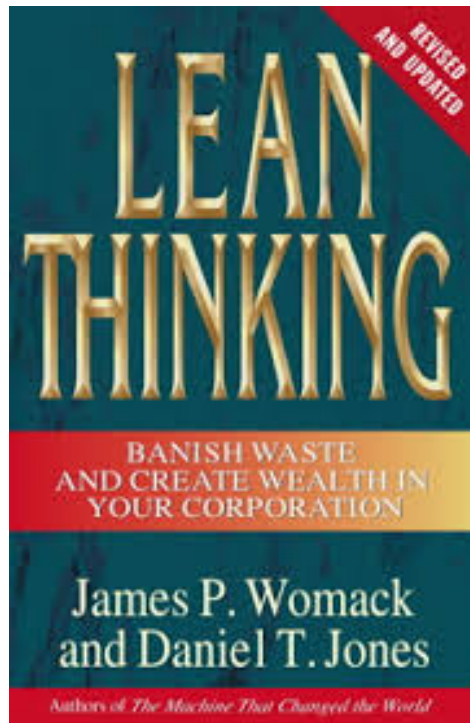
Map all of the steps...value added and non-value added...that bring a product or service to the customer

Establish Flow

The continuous **flow** of products, services and information from end to end through the process

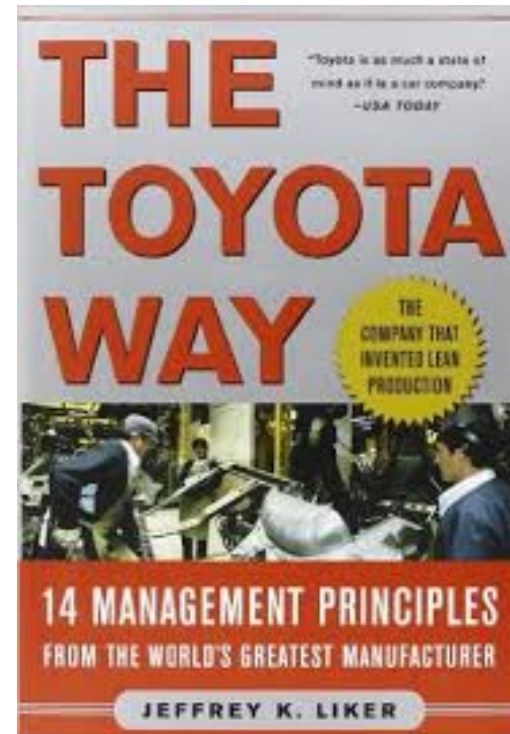
Implement Pull

Nothing is done by the upstream process until the downstream customer signals the need, actual demand **pulls** product/service through the value stream



Five Lean principles

- 1.
- 2.



Fourteen management principles

- #1.*
- #2.*

1. Specify value from the standpoint of the end customer

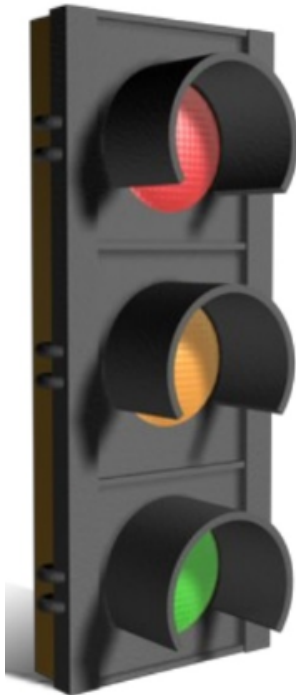
*Value : capability provided to **customer** at the **right time** at an appropriate **price**, as defined in each case by the **customer***

Who is the customer in
healthcare ???



Understanding value

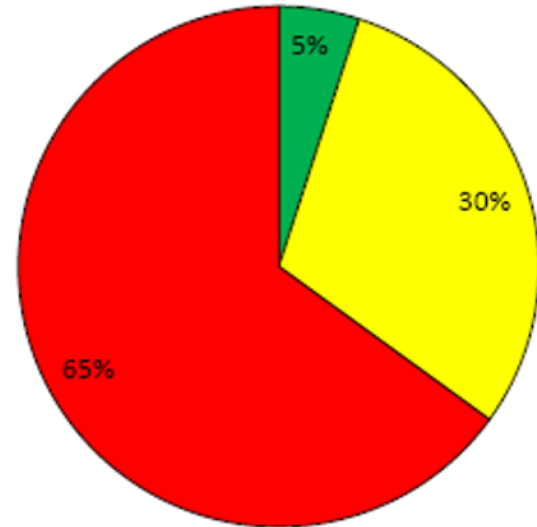
Three types of activities



Non Value Add
“unnecessary wastes”
Waste to Eliminate!

Non Value Add
“necessary waste”
Waste to Reduce!

Value Add
Increase!



Waste take up a significant amount of time and costs which can be eliminated

Typically 95% of all lead time is non-value added

Waste are the hidden costs and time which the customer is not paying for

Understanding Waste

Activities that do not add value

Waste

Muda



Workload that is not balanced

Un-Evenness

Mura



Work that creates burden for the team members or processes

Overburden

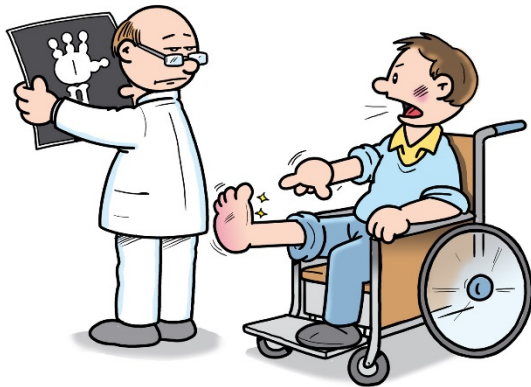
Muri



Picture Source – Toyota Motor Company Australia

WASTE

(DOWNTIME)



Defect

(does not meet expectations)

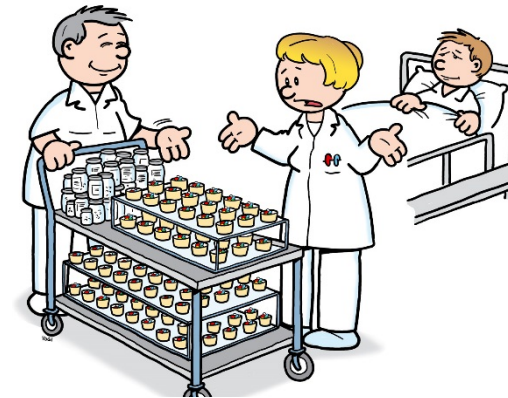
Error in patient's prescription



Waiting

(waiting in all forms is waste)

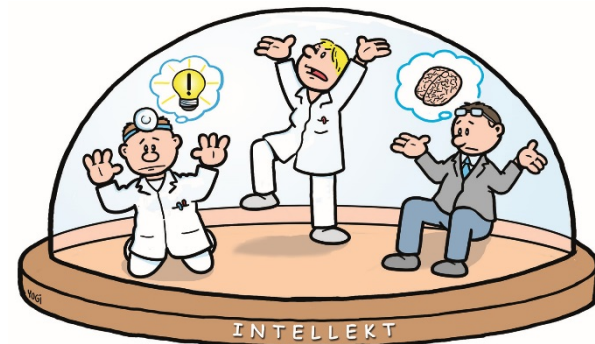
Waiting for the chemotherapy order



Overproduction

(producing more than you need to)

Medication prepared for several days



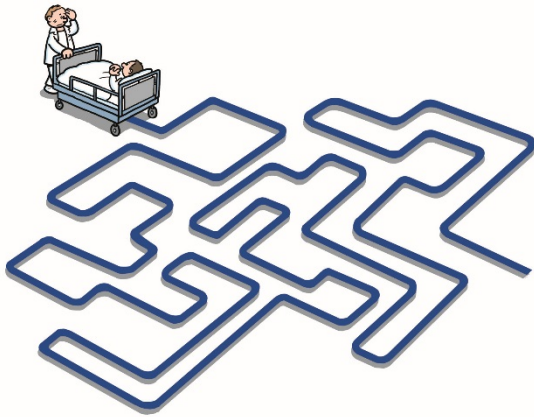
Non-used intellect

(using the wrong level of staff for certain tasks)

Pharmacist counting medications for To-Take-Away



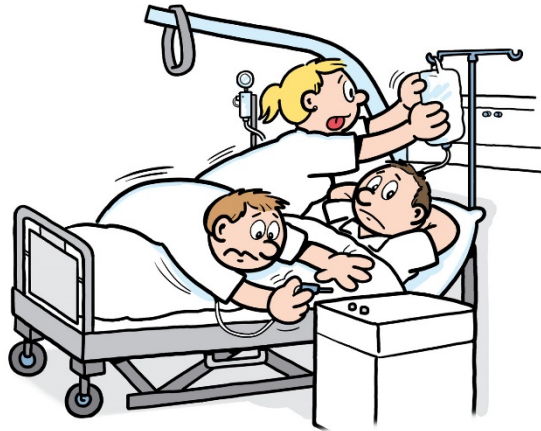
WASTE (DOWNTIME)



Transport

(movement of product, material, resources)

Transporting a chemo to the clinical ward



Motion

(movement of person that does not add value to the process)

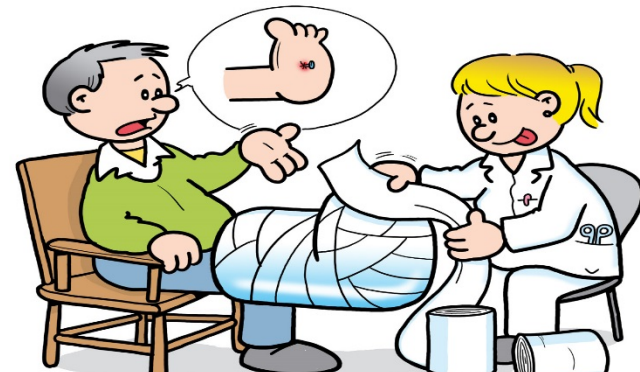
Looking for a medical chart



Inventory

(keeping stuff when it isn't required)

Stock rooms with too much of everything



Excessive processing

(doing more than you need to do)

Documenting pharmacy intervention both manually and electronically²¹



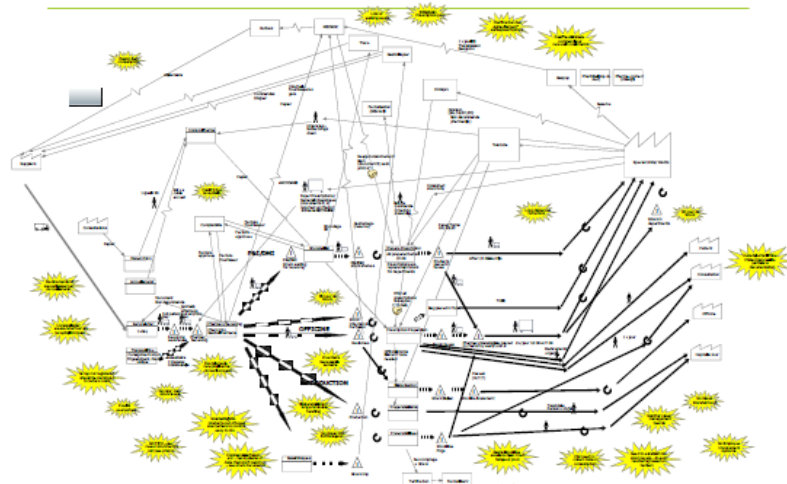
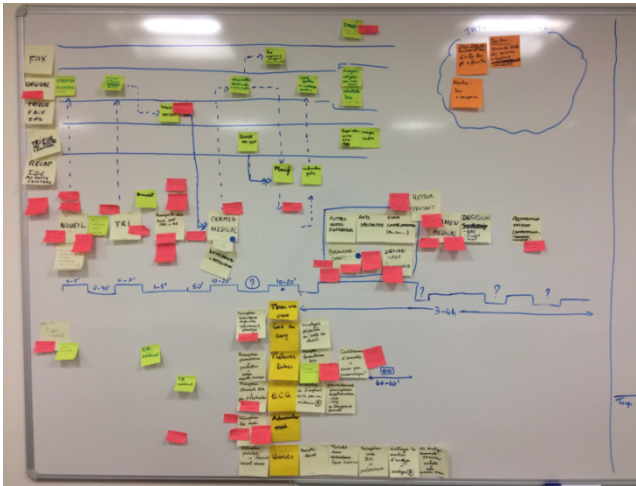
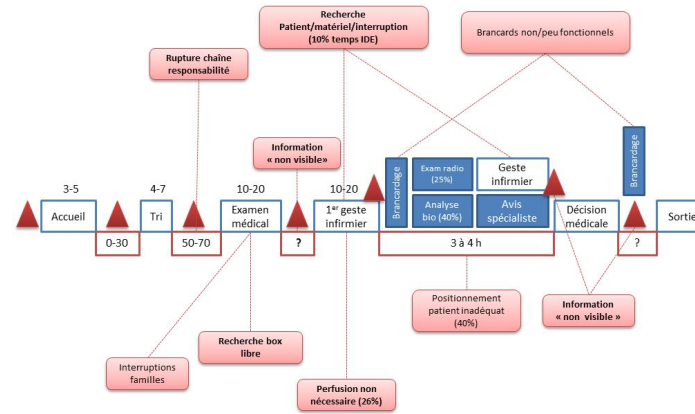
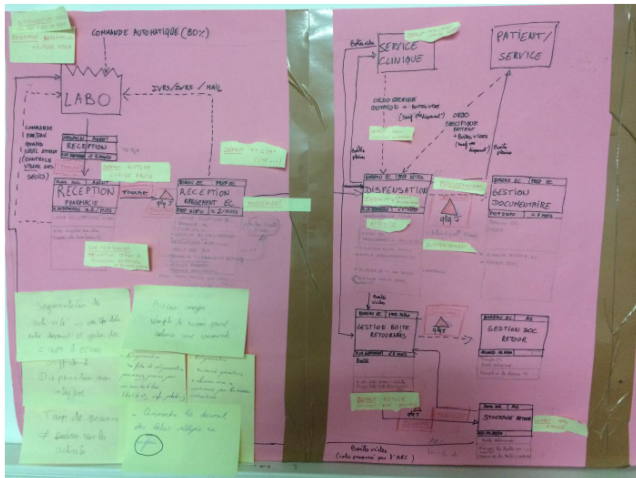
2. Map the value stream

Specific activities required to design, order, and provide a specific product/service

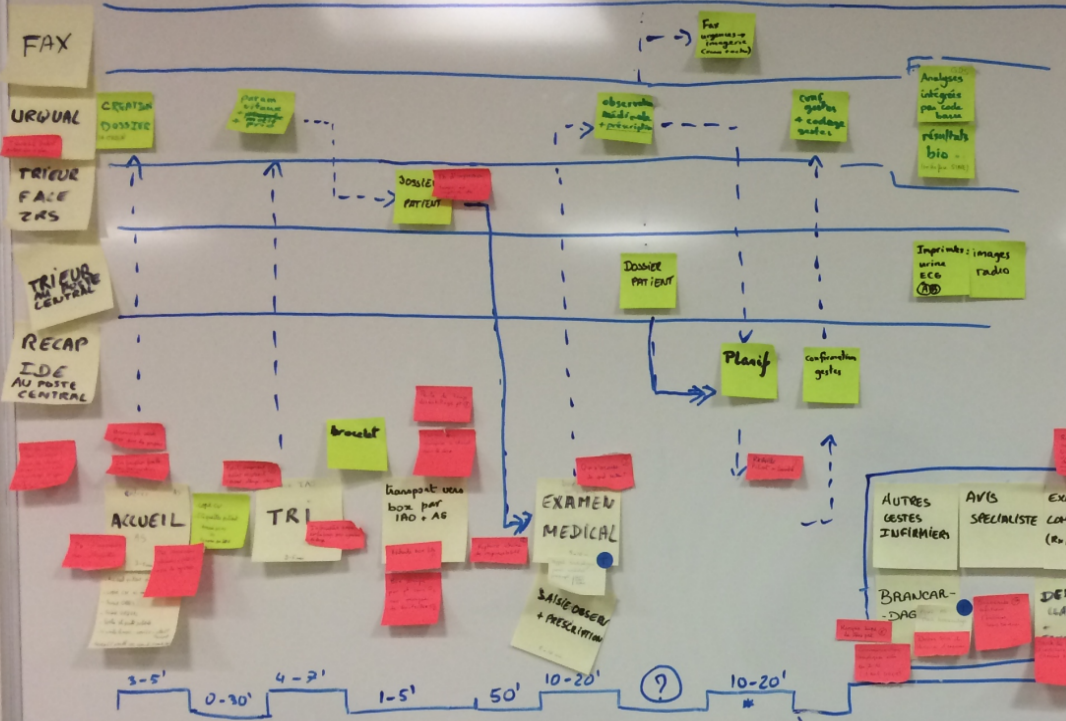


#12 : Go and see for yourself to thoroughly understand the situation

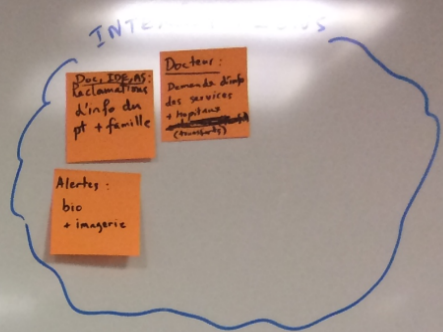
Map the value stream



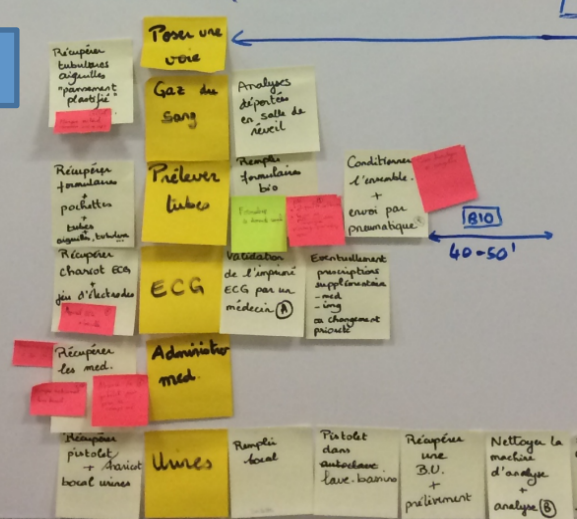
Information flow



Problems / waste



Patient flow



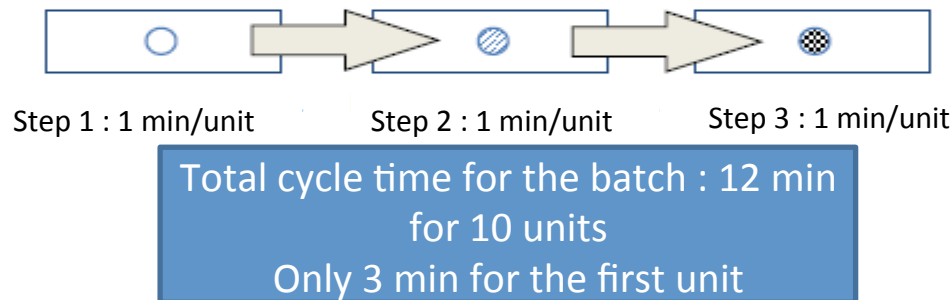
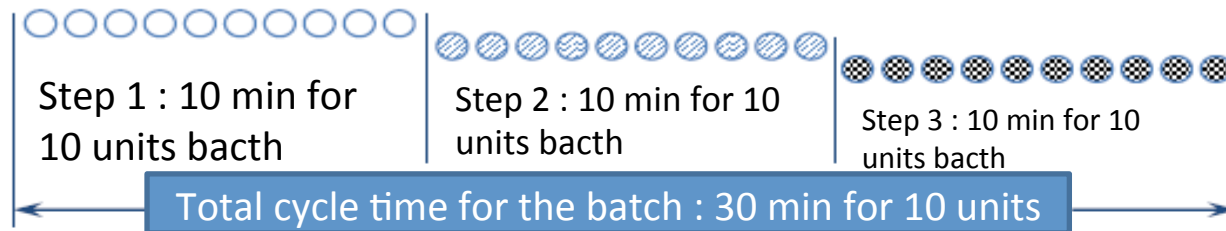
Map the value stream

It's all about having the same picture



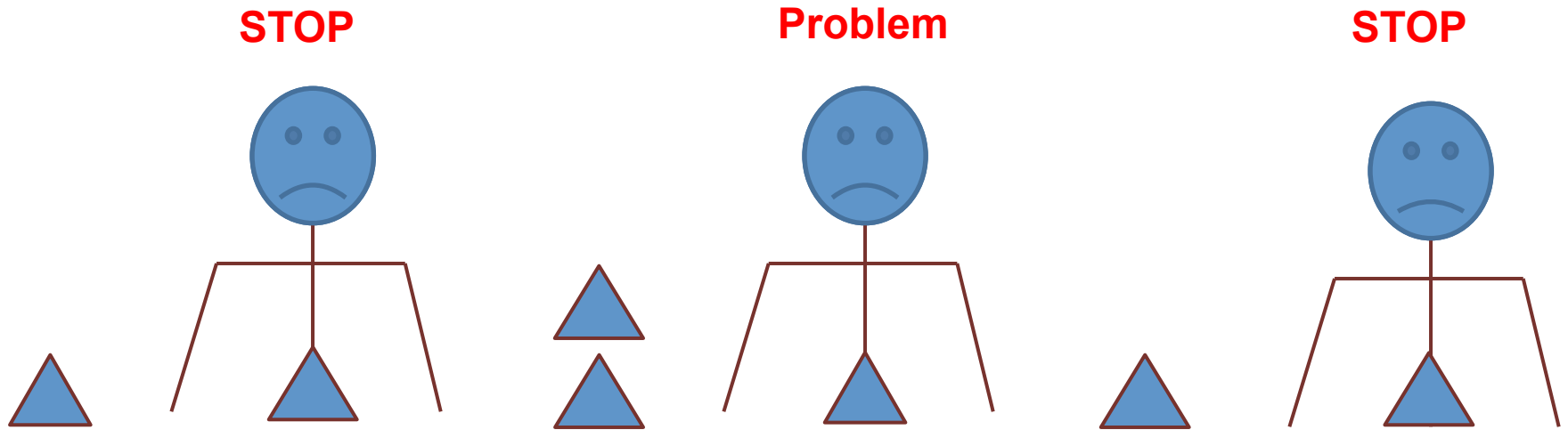
3. Establish flow

Abandon the traditional batch-and-queue mode of thinking that seems commonsense to most and make the value-creating steps occur in tight sequence so the product will flow smoothly toward the customer



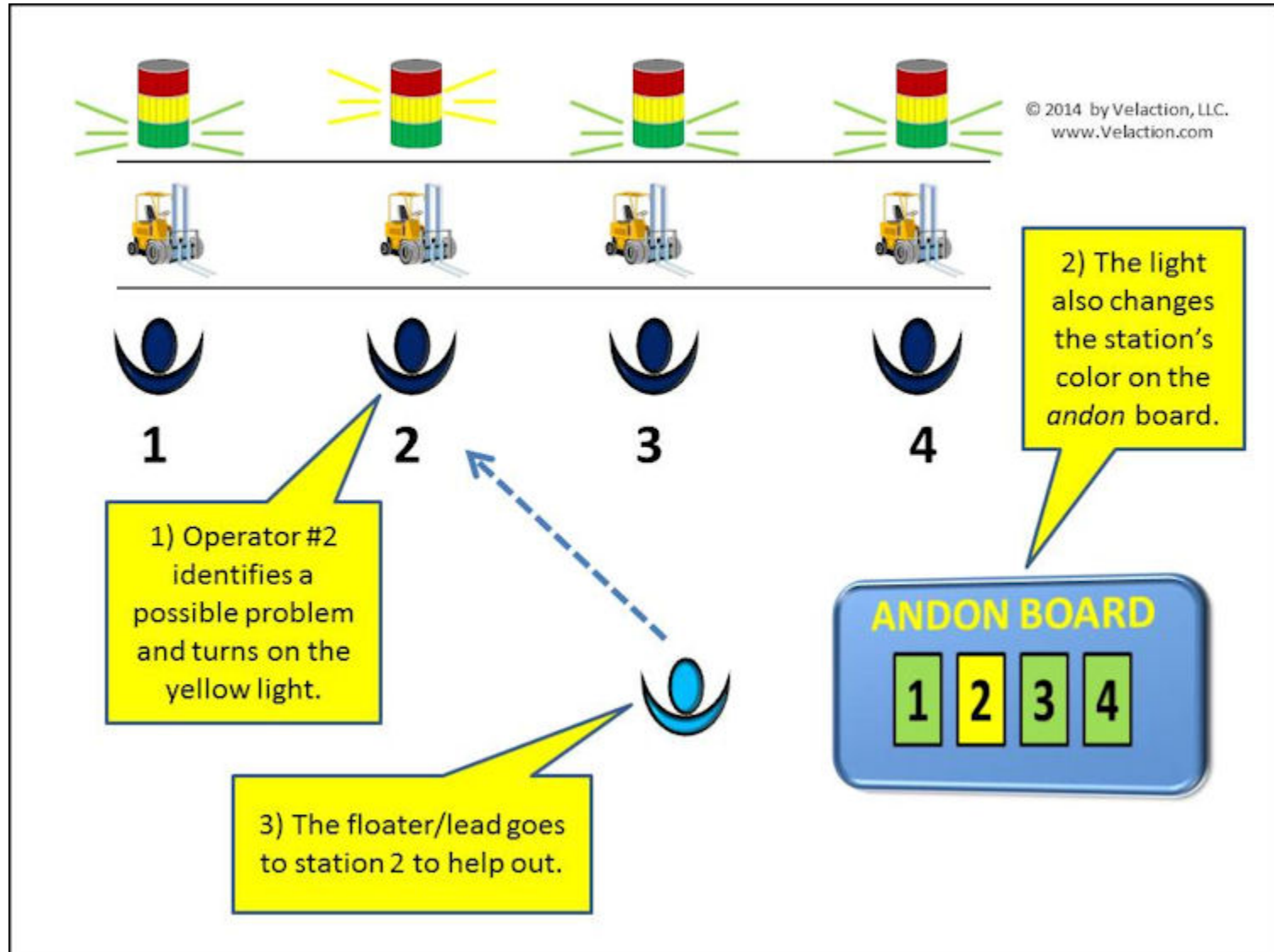
With continuous flow, total cycle time is reduced

*#2 : Create a process of continuous flow to bring **problems** to the surface*



#5 : Build a culture of stopping to fix problems, to get quality right the first time

ANDON



ANDON DISTRIBUTION INDIVIDUELLES

	9h				10h				11h				12h				13h
	h00	h15	h30	h45	h00	h15	h30	h45	h00	h15	h30	h45	h00	h15	h30	h45	h00
	Lundi	96	41	42		43	31		22	44	46/23	24		25/36	33	34	21
Mardi	96	41		42		43		31		22	44/46/23		24/25/36	33/34			21
Mercre	96				41		42/43	31	22/44	46/23	24/25	36/33	34	21			
Jeudi	96	41	42	43	31			22/44/46	23/24		25/36/33			34	21		
Vendr	96	41			42	43		31/22/44		46/23		24/25	26/33/34			21	

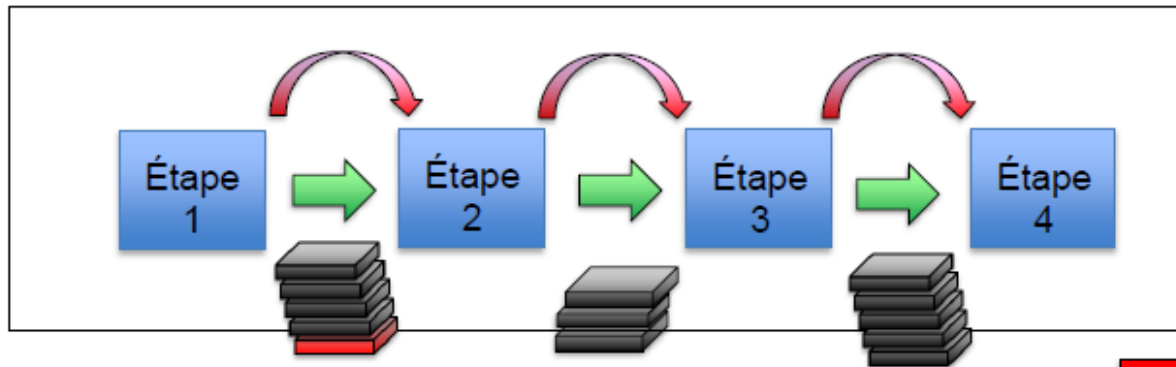


US restantes à 13:00	statut	A prévenir
Aucune	O	Bon appétit
1	Δ	Pharmacie hors ligne
2	X	ND
Plus	//	ND + JDR

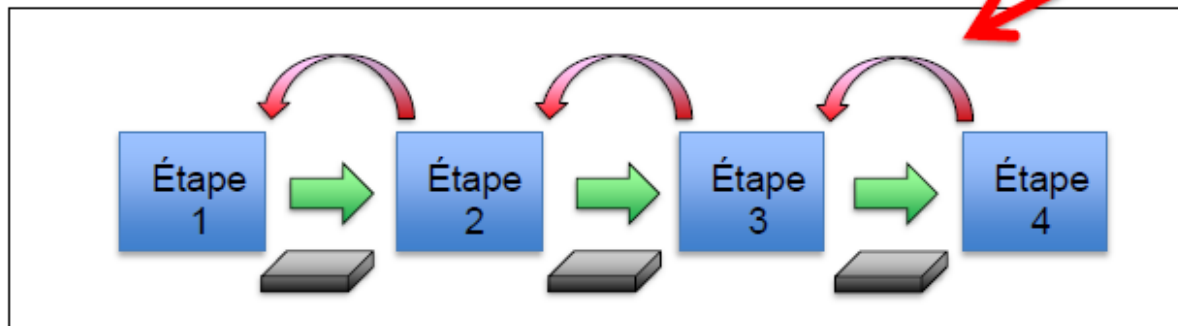
4. Implement pull

System of cascading production and delivery instructions from downstream to upstream in which nothing is produced by the upstream supplier until the downstream customer signals a need

Push



Pull

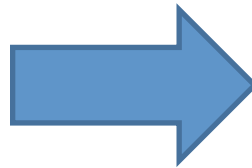


#3 : Use pull system to avoid over-production

Push or pull ?

- A patient needs blood work done. An order is put in and a nurse (or a phlebotomist) comes to draw blood.
- A doctor of the emergency department draws blood for many tests “just in case”
- If the patient is moved once a bed is made available
- A Lab with standing orders of chemicals and reagents (same amount every month)

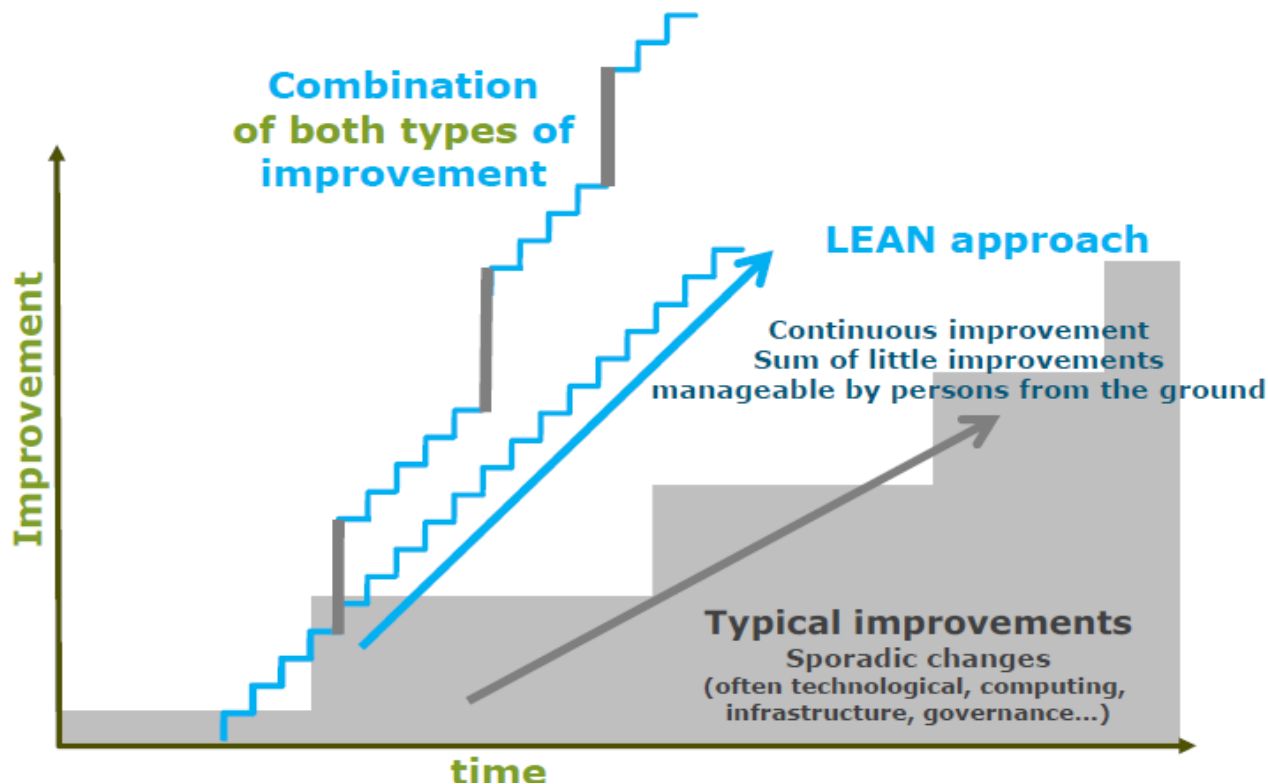
#4 : Level out the workload

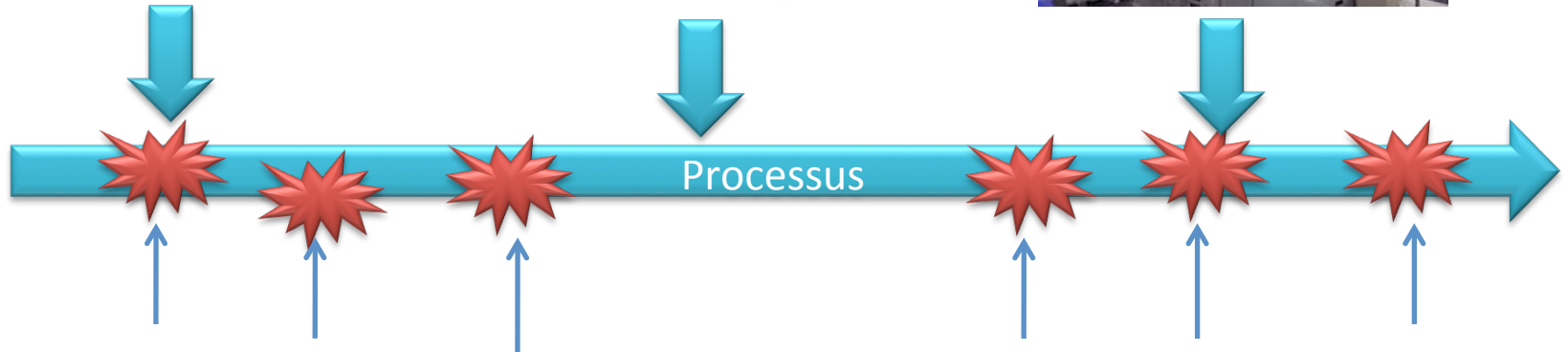
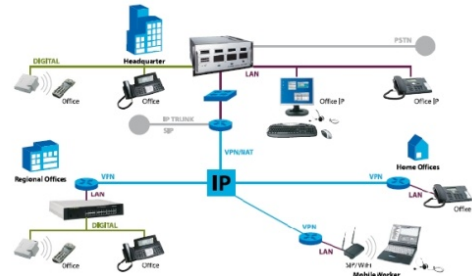


5. Work to perfection

Pursuit of lean is a never-ending process, as there will always be activities that are considered muda in the value stream and the complete elimination of muda is more of a desired end-state that a truly achievable goal.

The continuous improvement





#8 : Use only reliable, thoroughly tested technology that serves your people and process

#8 : Use visual controls so no problems are hidden

Næste tavlemøde:
Varighed:

H 1. 1.000 2. 1.000 3. 1.000 4. 1.000 5. 1.000 6. 1.000 7. 1.000 8. 1.000 9. 1.000 10. 1.000 11. 1.000 12. 1.000 13. 1.000 14. 1.000 15. 1.000 16. 1.000 17. 1.000 18. 1.000 19. 1.000 20. 1.000 21. 1.000 22. 1.000 23. 1.000 24. 1.000 25. 1.000 26. 1.000 27. 1.000 28. 1.000 29. 1.000 30. 1.000 31. 1.000 32. 1.000 33. 1.000 34. 1.000 35. 1.000 36. 1.000 37. 1.000 38. 1.000 39. 1.000 40. 1.000 41. 1.000 42. 1.000 43. 1.000 44. 1.000 45. 1.000 46. 1.000 47. 1.000 48. 1.000 49. 1.000 50. 1.000	H 1. 1.000 2. 1.000 3. 1.000 4. 1.000 5. 1.000 6. 1.000 7. 1.000 8. 1.000 9. 1.000 10. 1.000 11. 1.000 12. 1.000 13. 1.000 14. 1.000 15. 1.000 16. 1.000 17. 1.000 18. 1.000 19. 1.000 20. 1.000 21. 1.000 22. 1.000 23. 1.000 24. 1.000 25. 1.000 26. 1.000 27. 1.000 28. 1.000 29. 1.000 30. 1.000 31. 1.000 32. 1.000 33. 1.000 34. 1.000 35. 1.000 36. 1.000 37. 1.000 38. 1.000 39. 1.000 40. 1.000 41. 1.000 42. 1.000 43. 1.000 44. 1.000 45. 1.000 46. 1.000 47. 1.000 48. 1.000 49. 1.000 50. 1.000	H 1. 1.000 2. 1.000 3. 1.000 4. 1.000 5. 1.000 6. 1.000 7. 1.000 8. 1.000 9. 1.000 10. 1.000 11. 1.000 12. 1.000 13. 1.000 14. 1.000 15. 1.000 16. 1.000 17. 1.000 18. 1.000 19. 1.000 20. 1.000 21. 1.000 22. 1.000 23. 1.000 24. 1.000 25. 1.000 26. 1.000 27. 1.000 28. 1.000 29. 1.000 30. 1.000 31. 1.000 32. 1.000 33. 1.000 34. 1.000 35. 1.000 36. 1.000 37. 1.000 38. 1.000 39. 1.000 40. 1.000 41. 1.000 42. 1.000 43. 1.000 44. 1.000 45. 1.000 46. 1.000 47. 1.000 48. 1.000 49. 1.000 50. 1.000	H 1. 1.000 2. 1.000 3. 1.000 4. 1.000 5. 1.000 6. 1.000 7. 1.000 8. 1.000 9. 1.000 10. 1.000 11. 1.000 12. 1.000 13. 1.000 14. 1.000 15. 1.000 16. 1.000 17. 1.000 18. 1.000 19. 1.000 20. 1.000 21. 1.000 22. 1.000 23. 1.000 24. 1.000 25. 1.000 26. 1.000 27. 1.000 28. 1.000 29. 1.000 30. 1.000 31. 1.000 32. 1.000 33. 1.000 34. 1.000 35. 1.000 36. 1.000 37. 1.000 38. 1.000 39. 1.000 40. 1.000 41. 1.000 42. 1.000 43. 1.000 44. 1.000 45. 1.000 46. 1.000 47. 1.000 48. 1.000 49. 1.000 50. 1.000
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Læringsopfølgning

Problemløsning

Skabel

Skema

H

Indberetninger:

Resultat:

Skema: Anvendelse:

H

Indberetninger:

Resultat:

Skema: Anvendelse:

Kaizen - Igangværende

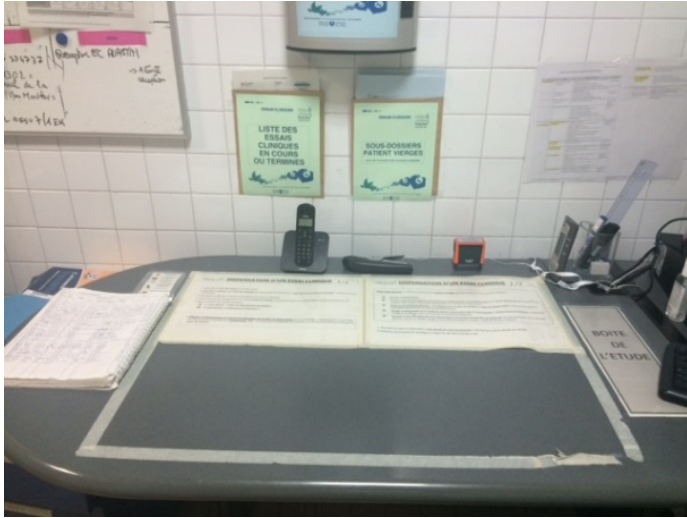
Dato	Problembeskrivelse	Årsag	Løsning	Status
2023-10-01
2023-10-02
2023-10-03
2023-10-04
2023-10-05
2023-10-06
2023-10-07
2023-10-08
2023-10-09
2023-10-10

Kaizen - Afsluttet

Dato	Problembeskrivelse	Årsag	Løsning	Status
2023-10-01
2023-10-02
2023-10-03
2023-10-04
2023-10-05
2023-10-06
2023-10-07
2023-10-08
2023-10-09
2023-10-10

Just do it

35



#6 : Standardized tasks and processes are the foundation for continuous improvement and employee empowerment



1. Sort



2. Set in Order



5. Sustain

5 S's



3. Shine



4. Standardize

INDICATEURS:

- Rouge = Zone non respectée
- Bleu = Zone saine
- Vert = Zone propre et respectée

5	5	5	5	5	5	5	5	5	5	5	5
JAN	FEV	MAR	AVR	MAI	JUIN	JUL	AOUT	SEPT	OCT	NOV	DEC

ZONE 1



ZONE 2



ZONE 3



ZONE 4



ZONE 5



ZONE 6



Chaque chose à sa place.
Pensez-y à
TOUT INSTANT
(Equipe 5S)



