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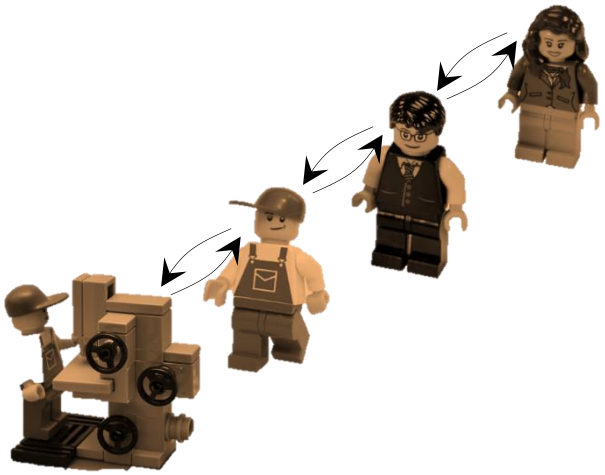
A systematic and practical approach for Strategy Deployment

By Gerardo Aulinger
with Mike Rother and Mark Rosenthal

Overview with a simplified example



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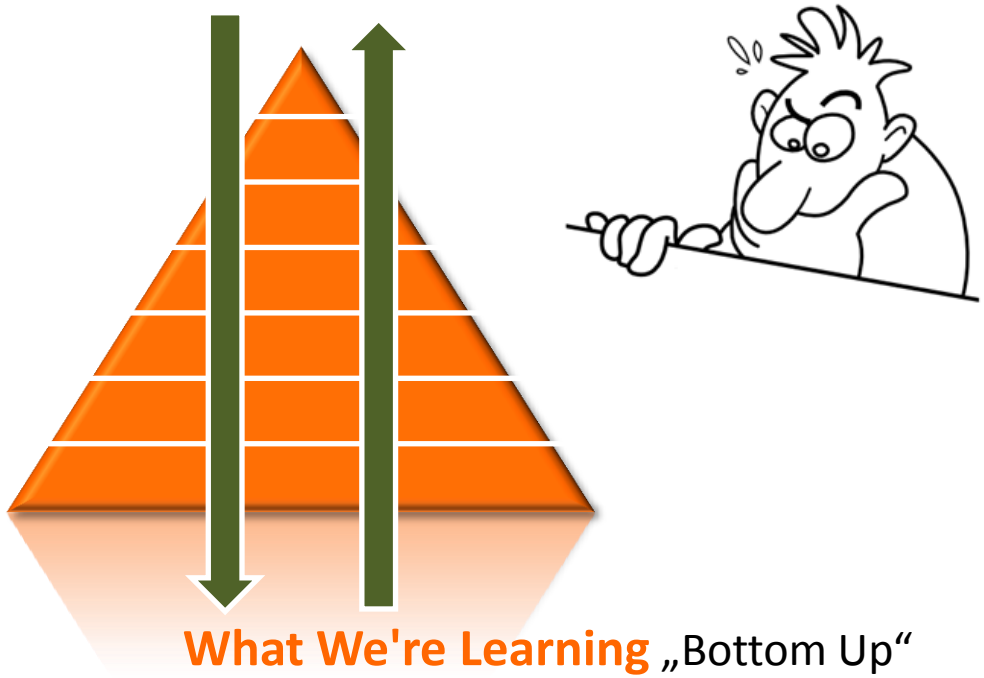
Introduction

The Lean community has been talking about strategy deployment for 20 years. In short, the objective is *arrows lined up* (i.e., individual process improvement efforts working toward common goals) and an up-and-down dialog that keeps both the top and the operational levels informed about unfolding realities.

Goal Deployment „Top-Down“



What We're Learning „Bottom Up“

Introduction

So far so good. But the approach we took to operationalize this concept has not been very effective.

We tried to copy Japanese companies' mature Eastern approach -- called *Hoshin Kanri* -- yet basic principles of skill-building and brain science suggest this sort of benchmarking or copying approach won't work for two reasons: (1) It's like telling a beginner athlete to copy and replicate an experienced athlete and (2) Typical Western organizational culture is different from an Eastern one. Hoshin Kanri has been interesting, but not very replicable here.

Like any athlete or musician who's learning new skills, you need to start where you are, practice some structured routines and, as your proficiency grows, you can fine-tune and develop your own style.

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Introduction

Fortunately, almost every reader of this is already using a tool that can help them start practicing better strategy deployment today: Future State Mapping. In this SlideShare Gerd Aulinger takes you through an example to clearly illustrate how future-state mapping and the routines of the Improvement Kata /Coaching Kata <u>come together</u> to effectively connect daily improvement with the strategy and breakthrough challenges of the organization.

Notice that Gerd refers to *future-state mapping.* The main purpose of drawing a current state value stream map is not to see problems or wastes for quick resolution, but to provide the basis for designing a future state. Once you have a future-state value stream design, then work toward it by applying the Improvement Kata at the processes in that value stream. That's goal-directed working, which Gerd illustrates well in this SlideShare.

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Introduction

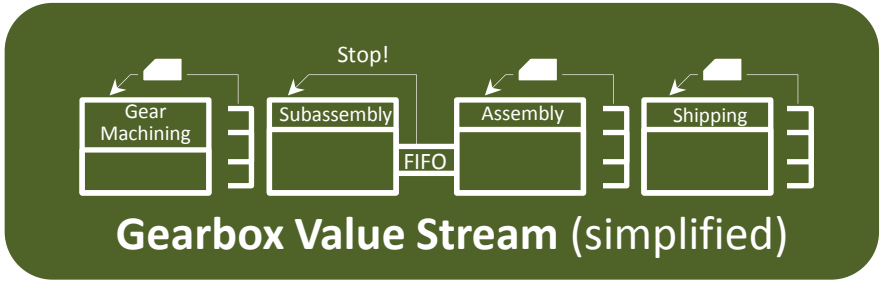
We continue to experiment with this approach, but it's time to share what we're learning. This SlideShare is detailed enough to be a guide and we invite you to use it to join in the experimenting and development.

Keep in mind you can download this file from SlideShare & print it.

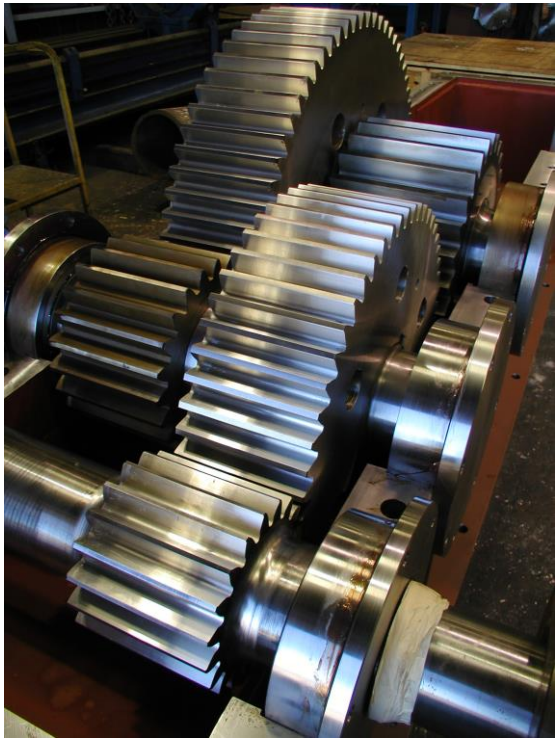
Study Gerd's SlideShare you'll be amazed at how logical, consistent and powerful the combination of Future-State Mapping and the Improvement Kata can be for (finally) achieving strategy deployment.

Mike Rother

A Simplified Example: Gearbox Manufacturing



Gear Broaching
(a process in the *Gear Machining* value stream loop)



Gearbox Assembly

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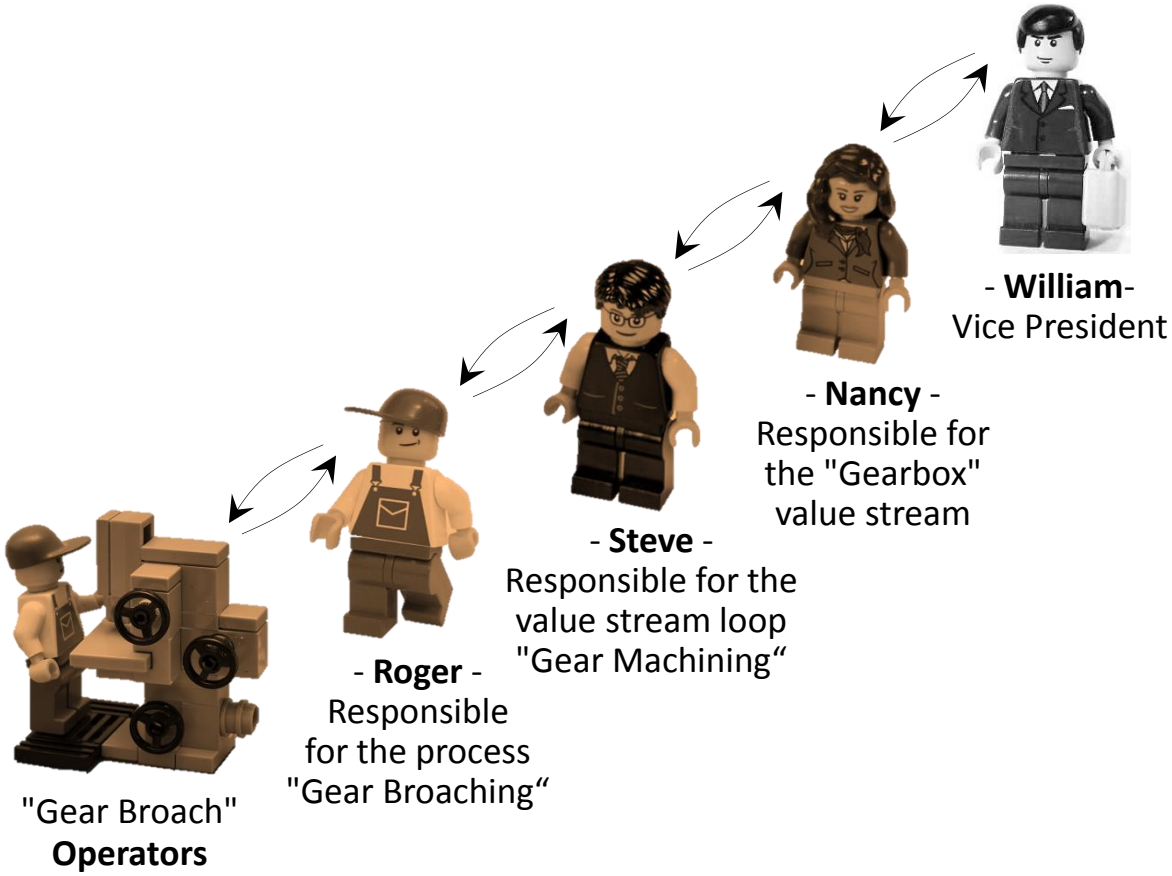
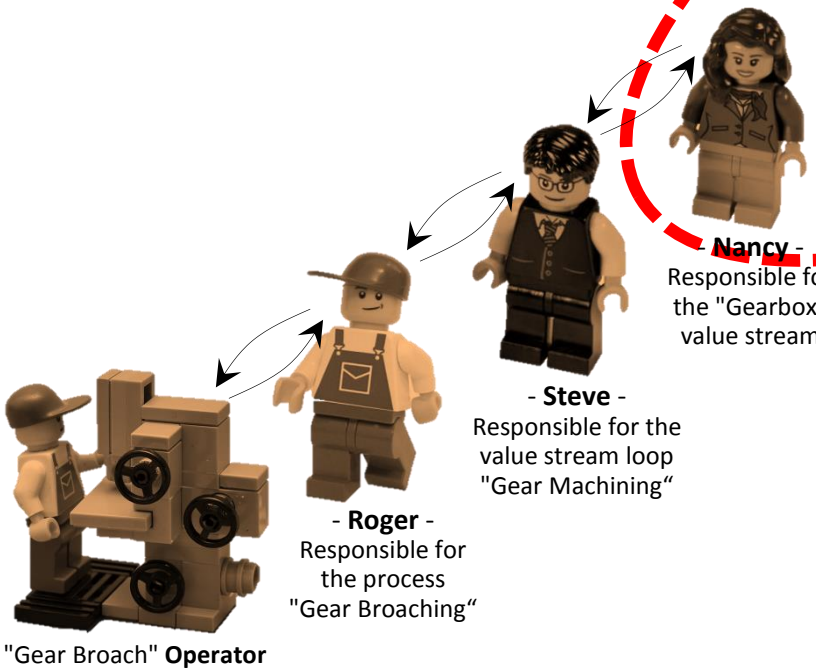
Meet the 5 Main Players in the Gearbox Value Stream Example



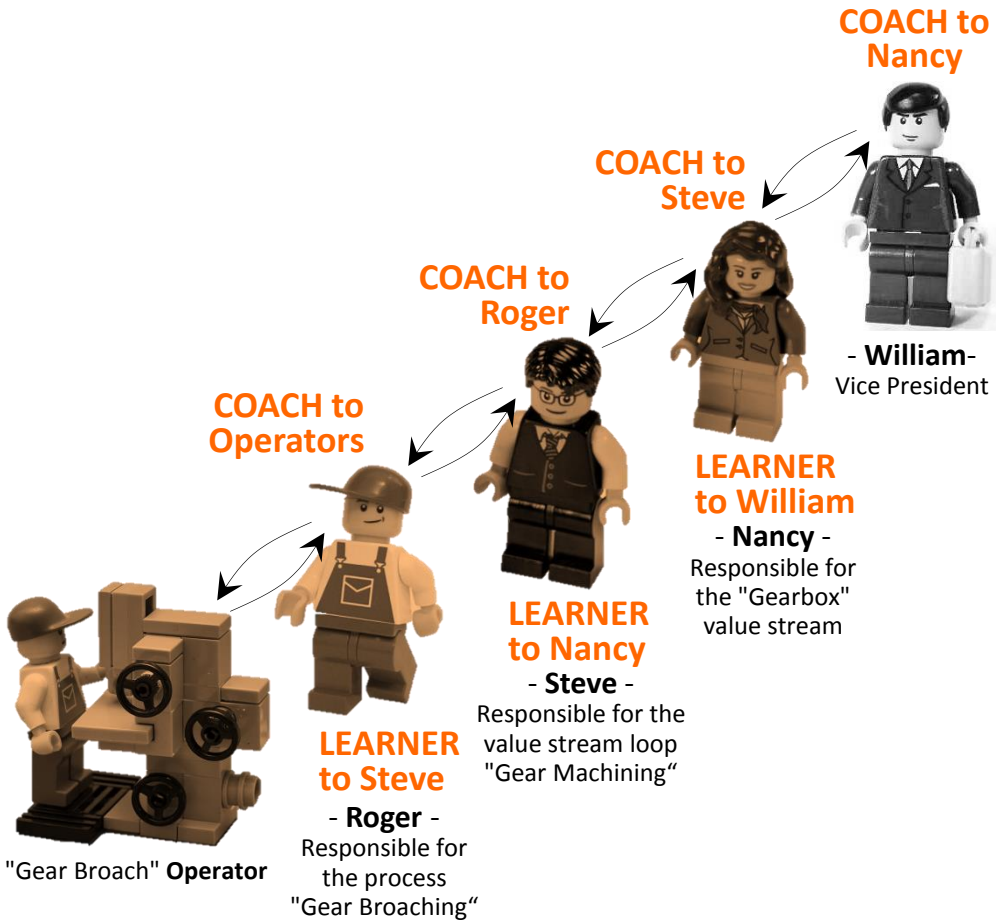
Background

Senior managers, including Nancy's coach/boss William, have decided the company needs to increase product variety and reduce the time to meet customer needs.



These are the Kata Practice Roles

It‘s fractal: The pattern repeats at each level



Learner (or "Mentee")
Applies the Improvement Kata to establish and work toward the next target condition. Learner conducts experiments with PDCA and develops solutions to obstacles, in daily dialog with the coach. The learner is responsible for the *doing*.

Coach (or "Mentor")
Ensures the learner is working toward their target condition scientifically according to the Improvement Kata pattern. Conducts coaching cycles daily using the 5 Coaching Kata Questions. The coach’s job is to develop the learner by guiding the learner on Improvement Kata procedure, not to improve the process. The coach is responsible for the Learner’s *results*.

==========

2nd Coach (not discussed in this example)
Periodically observes coaching cycles between a coach and learner, to help the coach develop their coaching skills.

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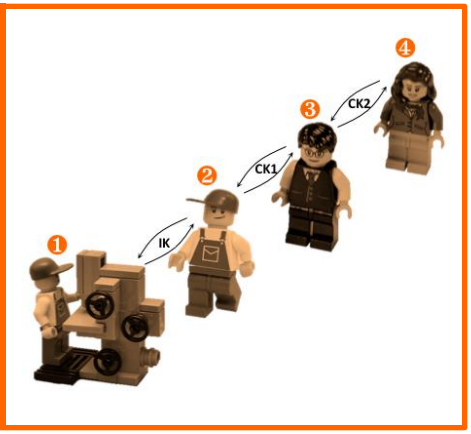
This Approach to Strategy Deployment Takes Place in Two Phases

Phase One



Planning. Consensus on direction and specific focal points is developed. Goals and coaching topics are derived mathematically and in detail "top down" from the future-state value stream map.

Phase Two

Execution. Once target conditions are developed, the coaching cycles and upward communication of current condition and lessons learned begin.

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The Steps We'll Go Through

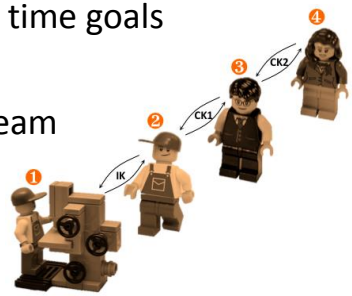
We'll focus in on a *Gear Broaching* process

Phase One

1- Current State Value Stream Map
2- Future State Value Stream Map in the direction of the organization's strategic objective
3- Split the FS Value Stream into Loops incl. each loop's inventory & lead time goals

*(now move to an **individual process** inside a VS loop)*

4- Develop the Next Target Condition mathematically from the value-stream loop goals **and Define Specific Improvement Themes**
5- Define Roles by Theme (Learner, Coach, 2nd Coach)
6- Establish the Schedule for Coaching Cycles



Phase Two

7- Process-Level Coaching Cycles Begin! Daily + more frequently as needed
- 7.1- Coach uses the *Five Coaching Kata Questions*
- 7.2- Periodic Observation of Coaching Cycles by the 2nd Coach

8- Value Stream Coaching Cycle Daily
- 8.1- Also using the *Five Coaching Kata Questions*

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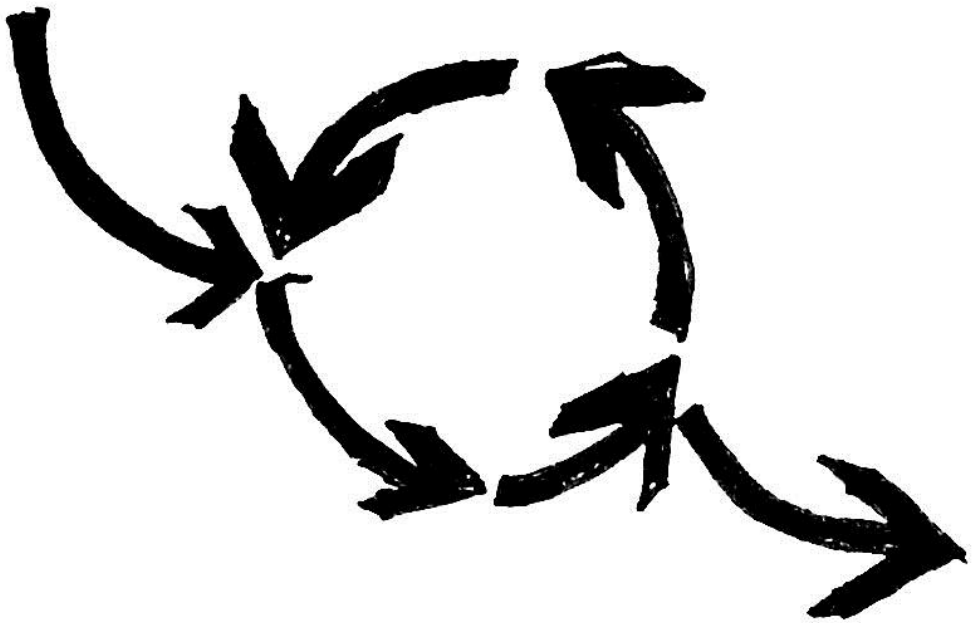
The steps are linear, but iterative

As you follow the steps, adjustments may be made in earlier steps based on what's being learned in later steps. What you learn in one step can influence a prior step. That's normal.



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Phase I: PLANNING

Consensus on Direction is Developed

In Phase 1, coaching topics and goals are derived mathematically and in detail "top down" from the future-state value stream map

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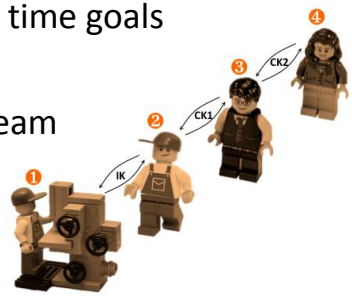

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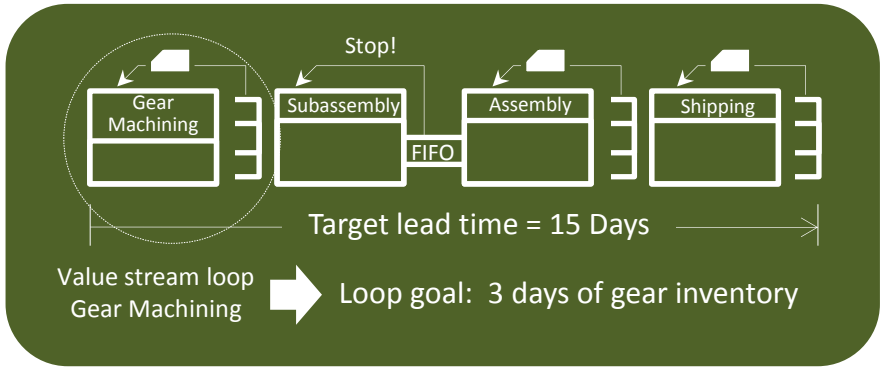
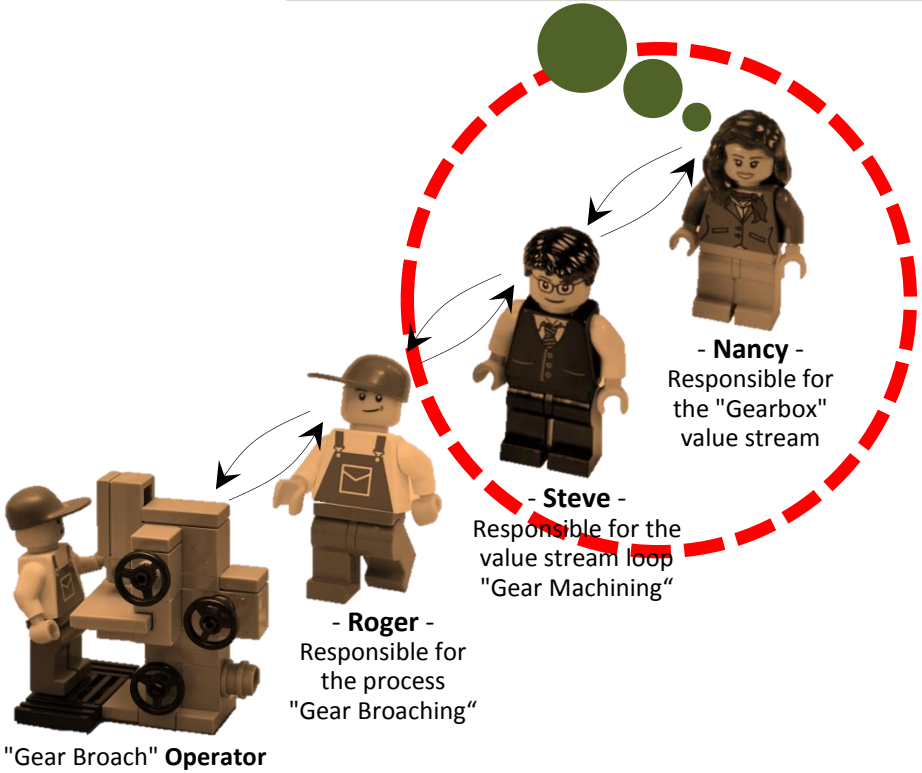
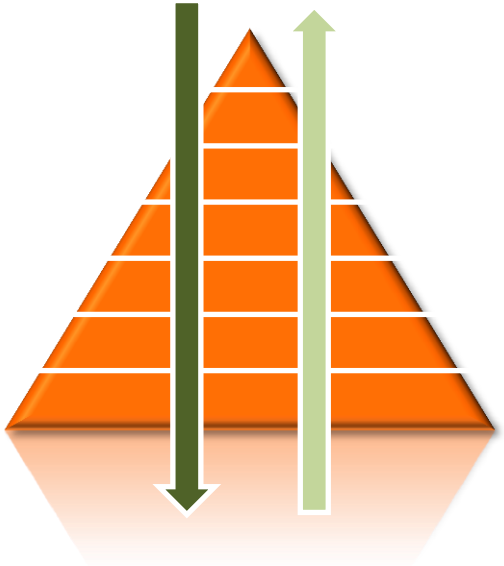
First the Value-Stream-level Coach and his or her Learners agree on the **value stream goals**



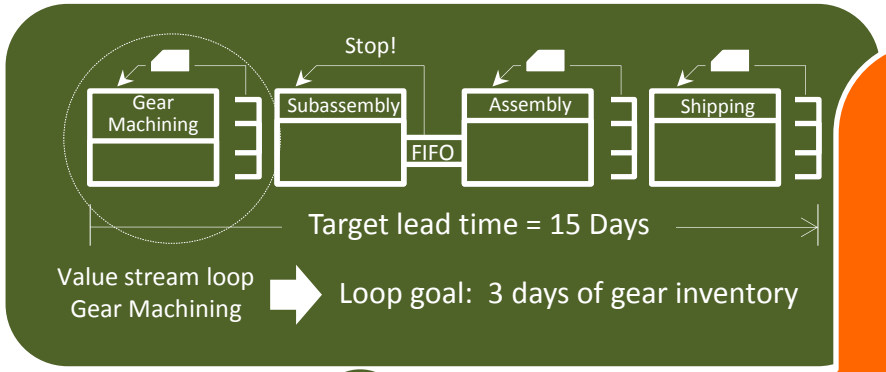
Nancy's Gearbox Future-State Value Stream Map



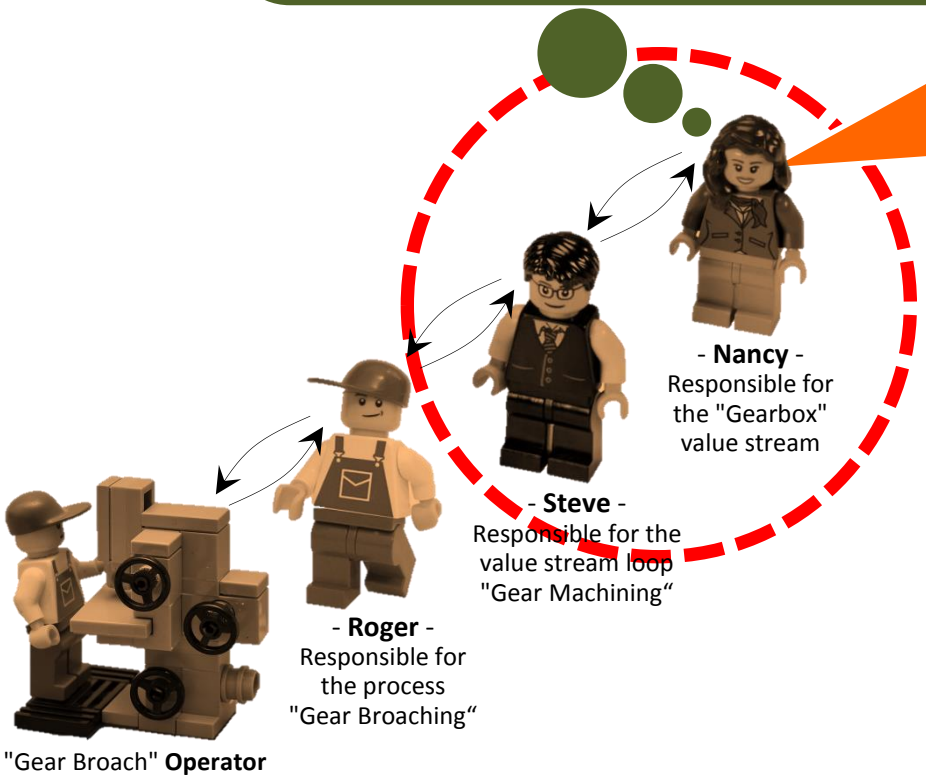
Goal Deployment



Nancy and Steve agree on a value stream goal of **15 Days Lead Time** and a gear-machining loop goal of **3 Days of Gear Inventory**



Steve, a strategic objective is to increase our product variety and bring the gearbox value stream's lead time down to 15 days. To achieve that we need your inventory of machined gears to go from 30 days to 3 days. Can you propose to me how the processes in your Gear Machining loop would have to function to achieve that?



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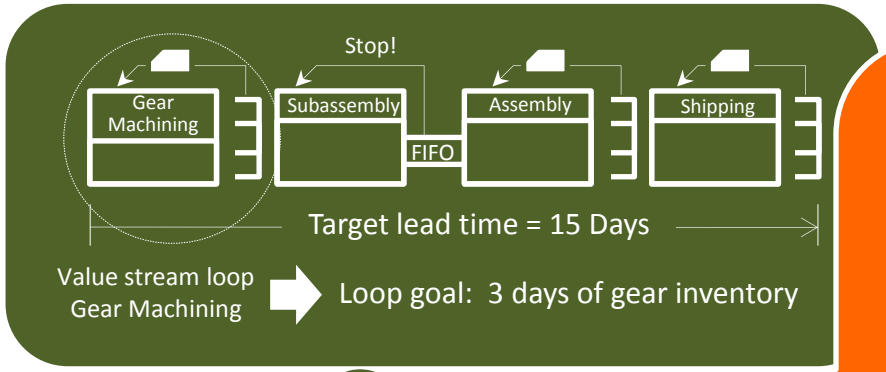

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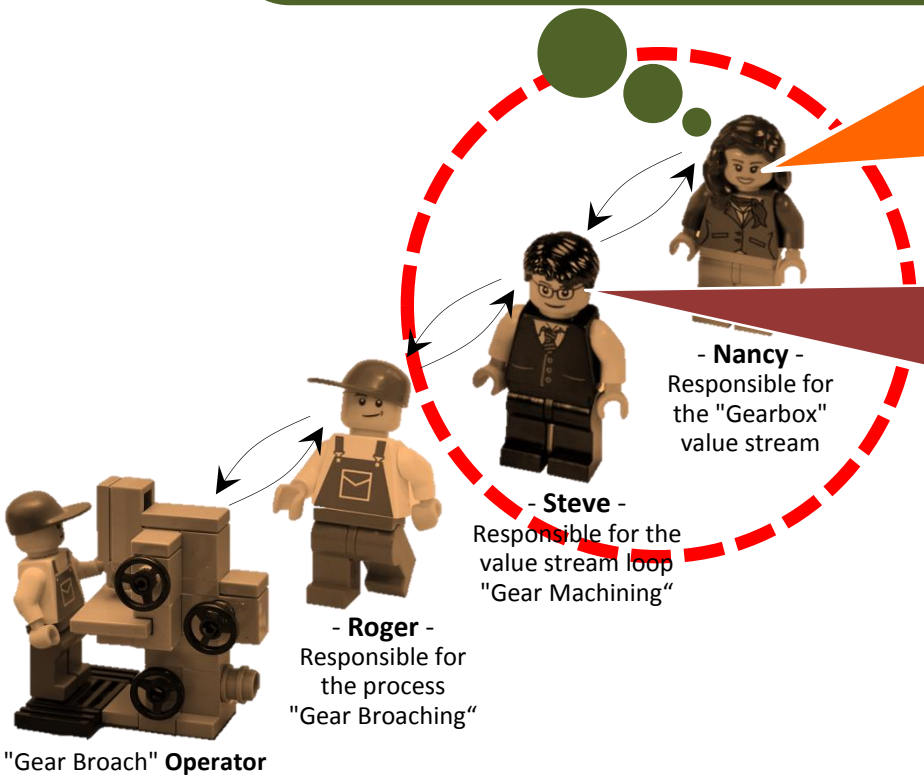

To do that I need to analyze the current condition of the Gear Broaching process*, so we can then define a process target condition to agree on and strive for.

*For illustration purposes we're focusing on only one process in the Gear Machining loop. The Improvement Kata can be applied to any process.

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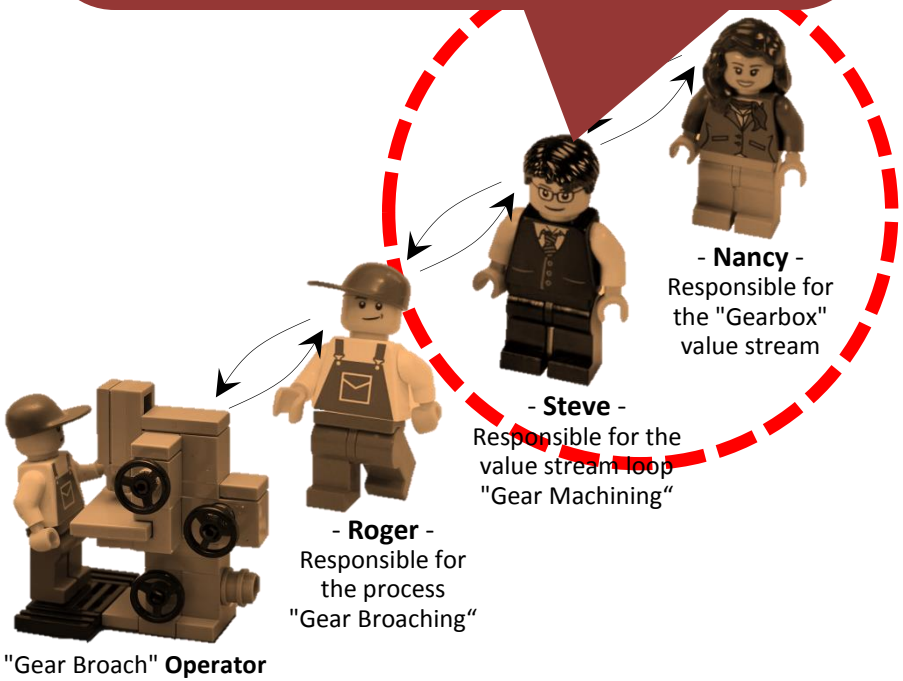
For illustration purposes we're focusing on only one process in the Gear Machining loop.

The Improvement Kata can be applied to all proceses in a value stream.

Develop the Next Target Condition
and
Define Specific Improvement Themes

After analyzing the process's current condition, Learner Steve, guided by Coach Nancy, develops a next target condition mathematically step-by-step

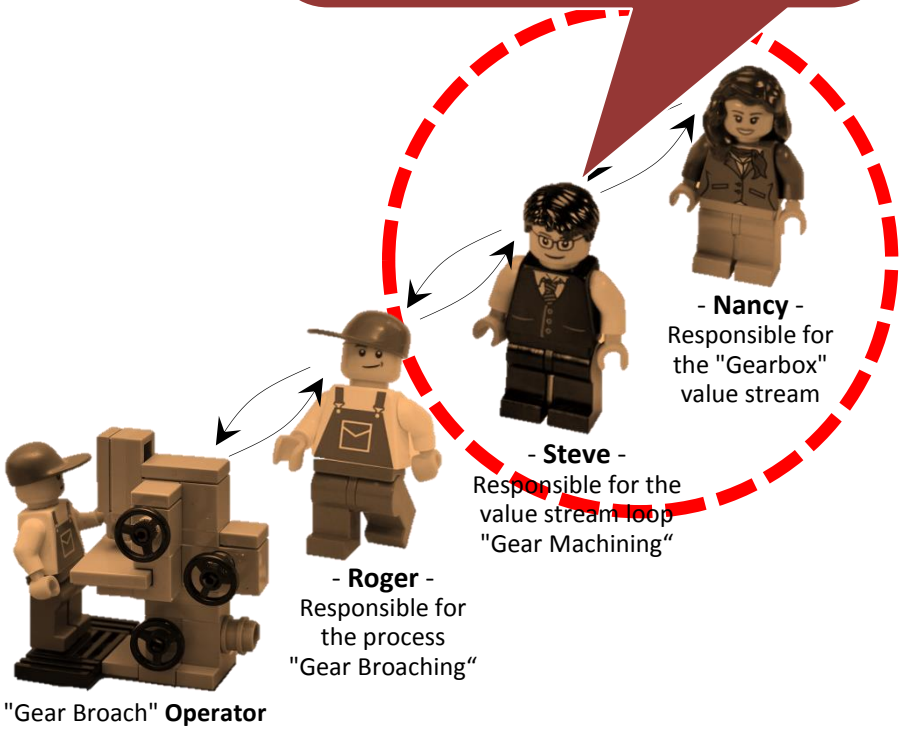
Nancy, to be able to operate with 3 days of finished gear inventory and have a 50% safety factor we'll need to broach every high-volume gear plus some specials every 2 days. The broaching process's EPEI and lot size need to = 2 days.



4- T-Form	Process: Gear Broaching	Coach: Steve	Mentee: Roger
Process indicator:		Current condition May 10th	Target condition by August 10th
Stock		30 Days	3 Days
Safety factor		50%	50%
EPEI (Every Part Every Intervall)		20 days	2 days

After analyzing the process's current condition, Learner Steve, guided by Coach Nancy, develops a next target condition mathematically step-by-step

To begin, we need to know how many product types we plan to have, and which are high-volume models and which are specials.



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Variants		30 Types	40 Types

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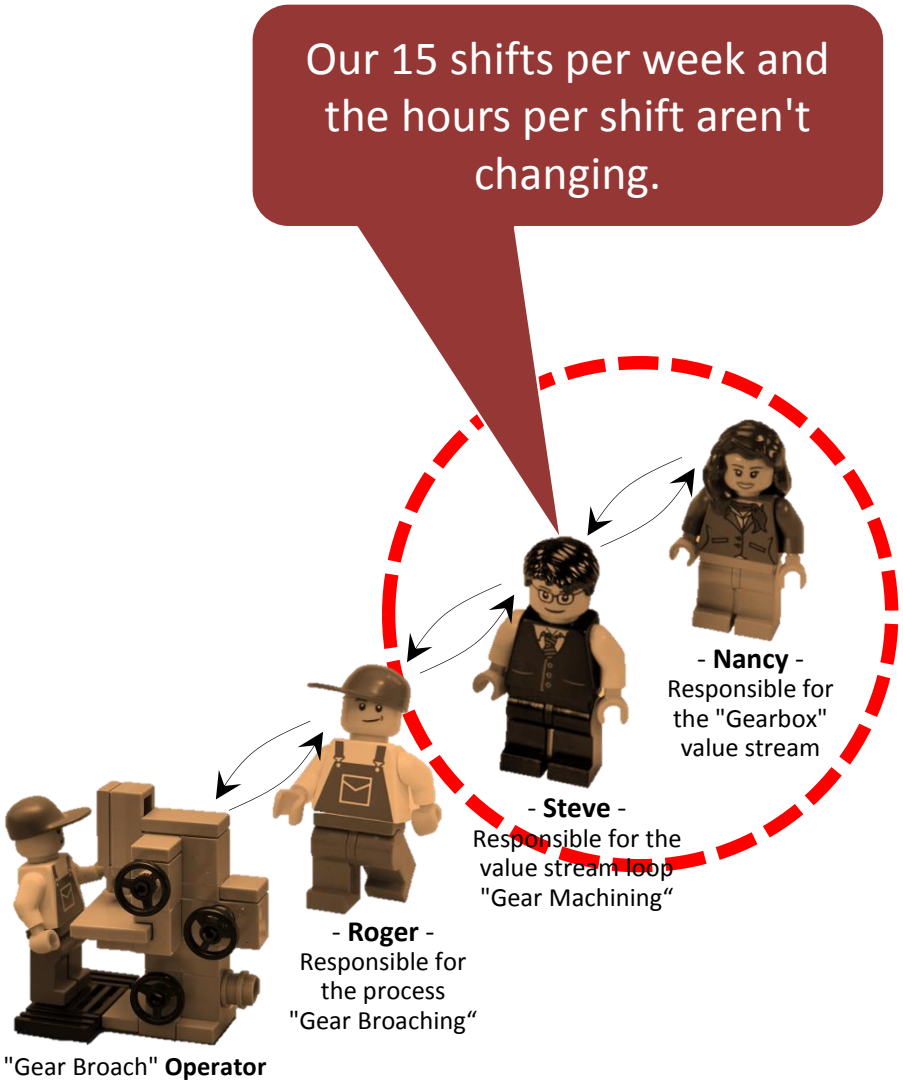

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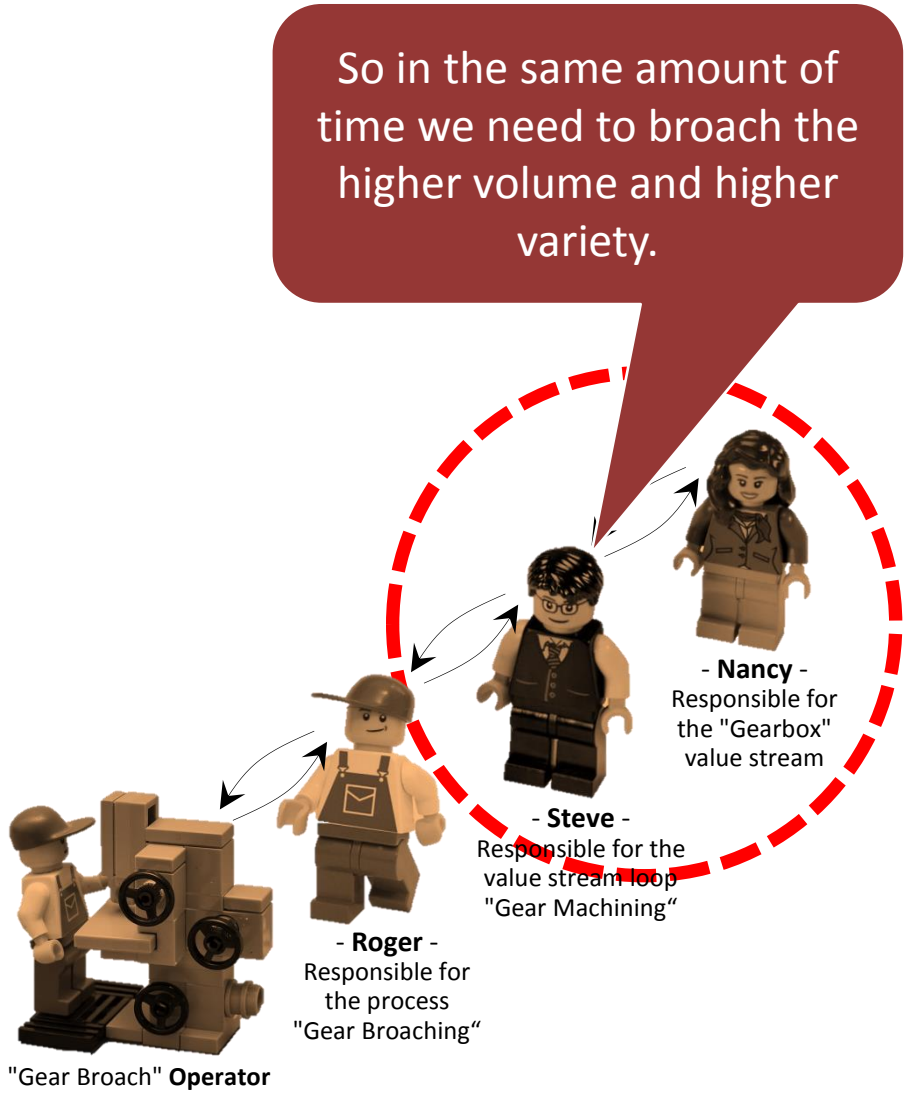
Safety factor		50%	50%
EPEI (Every Part Every Intervall)		20 days	2 days
Variants		30 variants	40 variants
	runners	8 variants	12 variants
	specials	22 variants	28 variants
C/O per EPEI		10 variants	16 variants
	runners	8 variants	12 variants
	specials	2 variants	4 variants
Shifts per week		**15 Shifts/wk**	**15 Shifts/wk**
Working time per shift (h)		8 h/	8 h/sh
	(min)	480	480 min/sh
Breaks per shift (min)		4	40 min/sh
Net working time per shift (min)			440 min/sh

After analyzing the process's current condition, Learner Steve, guided by Coach Nancy, develops a next target condition mathematically step-by-step



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Working time per shift (h)		8 h/sh	8 h/sh
	(min)	480 min/sh	480 min/sh
Breaks per shift (min)		40 min/sh	40 min/sh
Net working time per shift (min)		440 min/sh	440 min/sh
Demand per Month		102,000 pcs/mo	121,200 pcs/mo
Workdays per Month		20 d	20 days/m
Shifts per Day		3	3 sh/day
Demand per Variant per shift			
	runners	h	133 pcs/sh
	specials		15 pcs/sh

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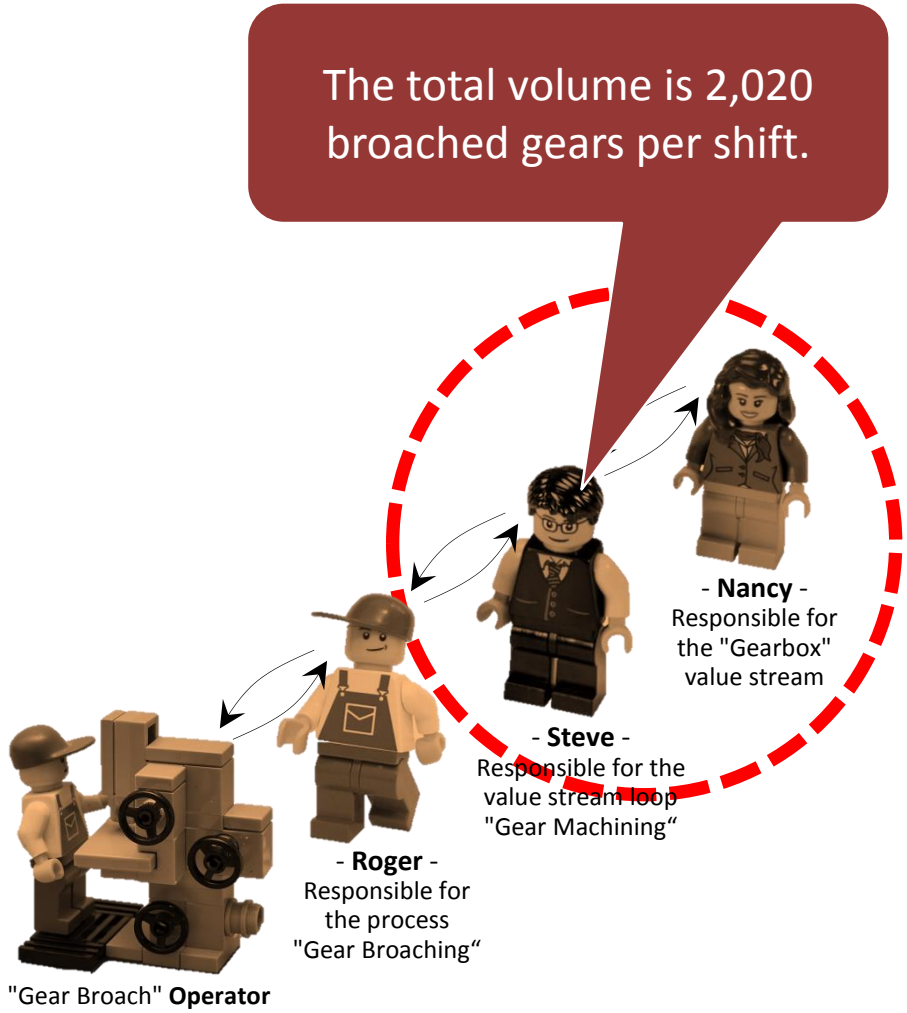

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	(min)	480 min/sh	480 min/sh
Breaks per shift (min)		40 min/sh	40 min/sh
Net working time per shift (min)		440 min/sh	440 min/sh
Demand per Month		102.000 pcs/mo	121.200 pcs/mo
Workdays per Month		20 days/m	20 days/m
Shifts per Day		3 sh/day	3 sh/day
Demand per Variant per shift			
	runners	167 pcs/sh	133 pcs/sh
	specials	17 pcs/sh	15 pcs/sh
Total demand per shift		**1,700 pcs/shift**	**2,020 pcs/shift**

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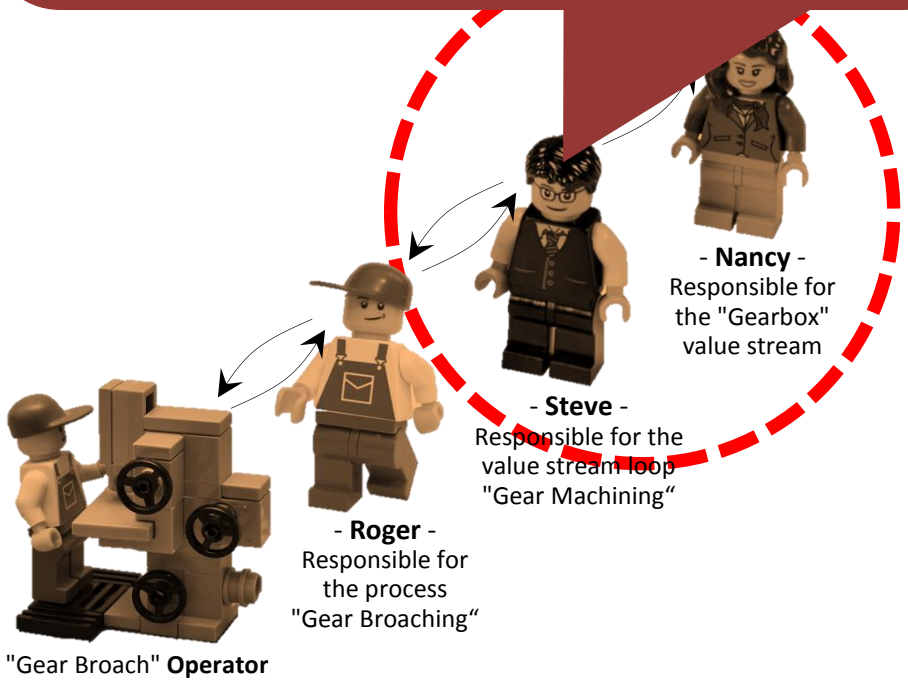
Developing the target condition, three themes pop up: **cycle time** 10 seconds, **unplanned downtime** 15% & **changeover time** 14 minutes

The mathematically derived target condition for Gear Broaching shows that to get to a 3-day finished gear inventory we need to work on three aspects of the Gear Broaching process:

- Planned cycle time



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Customer takt		15,5 sec	13,1 sec
Planned Cycle Time Pc/t		12 sec	**10 Sec**
Runtime/shift (sec)		20.400 s	20.200 sec
	(min)	340 m	337 min
Downtime (%)		2	15 %
Downtime per shift (min)			66 min
Time left for C/O			37 min
Necessary C/O per shift			2,7 c/o per sh
C/O time		7 min per c/o	14 min per c/o

Developing the target condition, three themes pop up: **cycle time** 10 seconds, **unplanned downtime** 15% & **changeover time** 14 minutes

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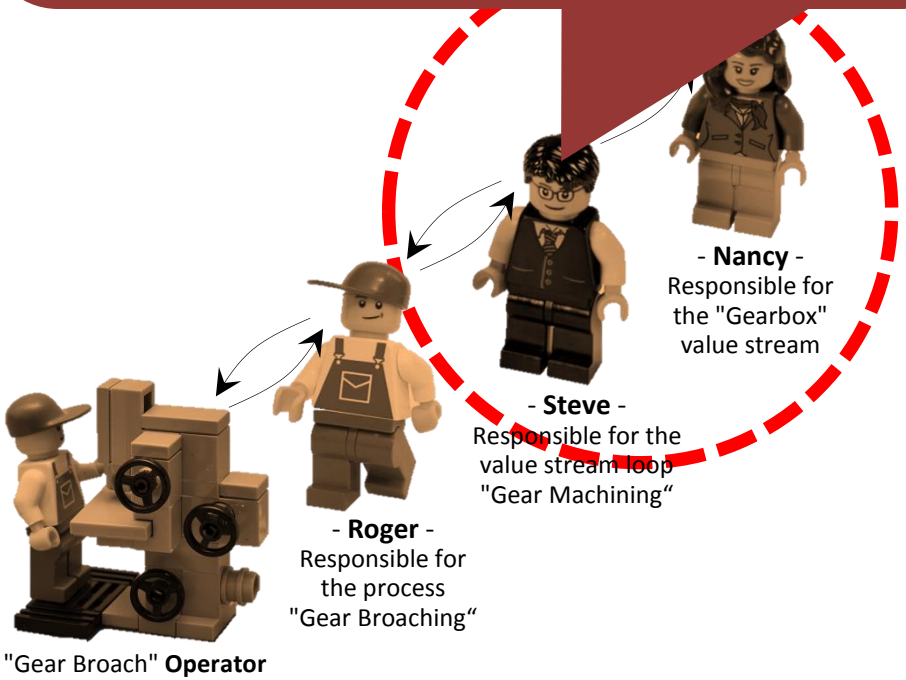
- Unplanned downtime



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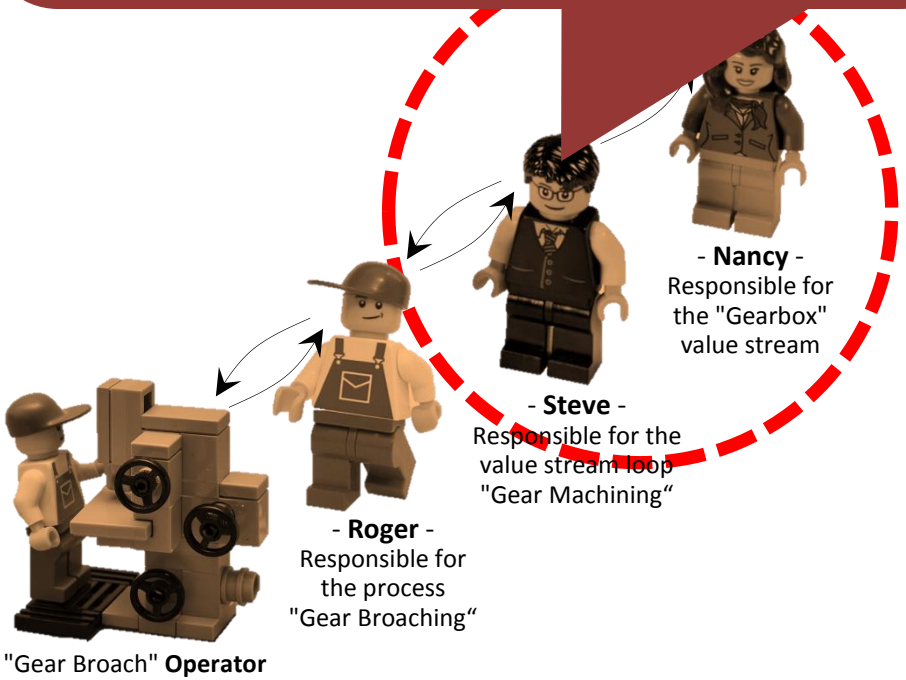
	(min)	340 min	337 min
Unplanned downtime (%)		20 %	**15%**
Downtime per shift (min)		88 min	66 min
Time left for C/O		12 m	37 min
Necessary C/O per shift		0,2 c	2,7 c/o per sh
C/O time		72	14 min per c/o

Developing the target condition, three themes pop up: **cycle time** 10 seconds, **unplanned downtime** 15% & **changeover time** 14 minutes

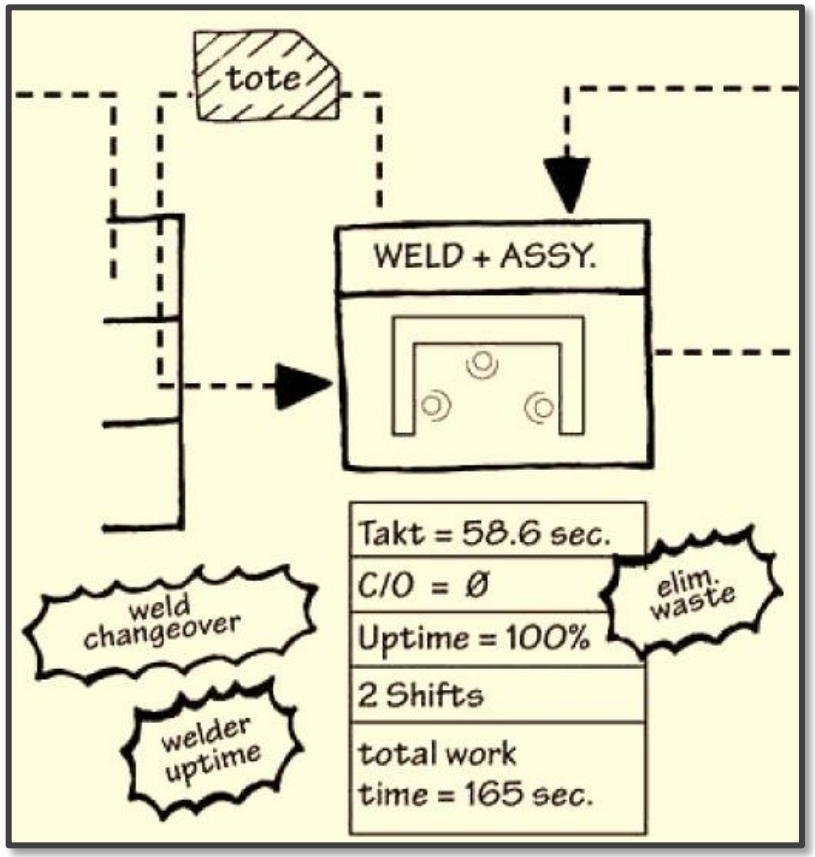
The mathematically derived target condition for Gear Broaching shows that to get to a 3-day finished gear inventory we need to work on three aspects of the Gear Broaching process:

- Planned cycle time
- Unplanned downtime
- Changeover time



4- T-Form	Process: Gear Broaching	Coach: Steve	Mentee: Roger
ocess indicator:		Current condition May 10th	Target condition by August 10th
tock		30 days	3 days
fety factor		50%	50%
EI (Every Part Every Intervall)		20 days	2 days
riants		30 variants	40 variants
	runners	8 variants	12 variants
	specials	22 variants	28 variants
O per EPEI		10 variants	16 variants
	runners	8 variants	12 variants
	specials	2 variants	4 variants
ifts per week		15 sh/wk	15 sh/wk
Vorking time per shift (h)		8 h/sh	8 h/sh
	(min)	480 min/sh	480 min/sh
Breaks per shift (min)		40 min/sh	40 min/sh
Net working time per shift (min)		440 min/sh	440 min/sh
Demand per Month		102.000 pcs/mo	121.200 pcs/mo
Workdays per Month		20 days/m	20 days/m
Shifts per Day		3 sh/day	3 sh/day
Demand per Variant per shift			
	runners	167 pcs/sh	133 pcs/sh
	specials	17 pcs/sh	15 pcs/sh
Total demand per shift		1.700 pcs/sh	2.020 pcs/sh
Customer takt		15,5 sec	13,1 sec
Planned Cycle Time Pc/t		12 sec	**10 Sec**
Runtime/shift (sec)		20.400 sec	20.200 sec
	(min)	340 min	337 min
Unplanned downtime (%)		20 %	**15%**
Downtime per shift (min)		88 min	66 min
Time left for C/O		12 min	37 min
Necessary C/O per shift		0,2 c/o per sh	2,7 c/o per sh
Changeover time		72 min per c/o	**14 Min**

These 3 themes, or process improvements, are the equivalent of future-state „kaizen bursts“ on pages 77-80 in *Learning to See*



From *Learning to See*, page 78

4- T-Form	Process: Gear Broaching	Coach: Steve	Mentee: Roger
Process indicator:		**Current condition** May 10th	**Target condition** by August 10th
Stock		30 days	3 days
Safety factor		50%	50%
EPEI (Every Part Every Intervall)		20 days	2 days
Variants		30 variants	40 variants
	runners	8 variants	12 variants
	specials	22 variants	28 variants
C/O per EPEI		10 variants	16 variants
	runners	8 variants	12 variants
	specials	2 variants	4 variants
Shifts per week		15 sh/wk	15 sh/wk
Working time per shift (h)		8 h/sh	8 h/sh
	(min)	480 min/sh	480 min/sh
Breaks per shift (min)		40 min/sh	40 min/sh
Net working time per shift (min)		440 min/sh	440 min/sh
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Time left for C/O		12 min	37 min
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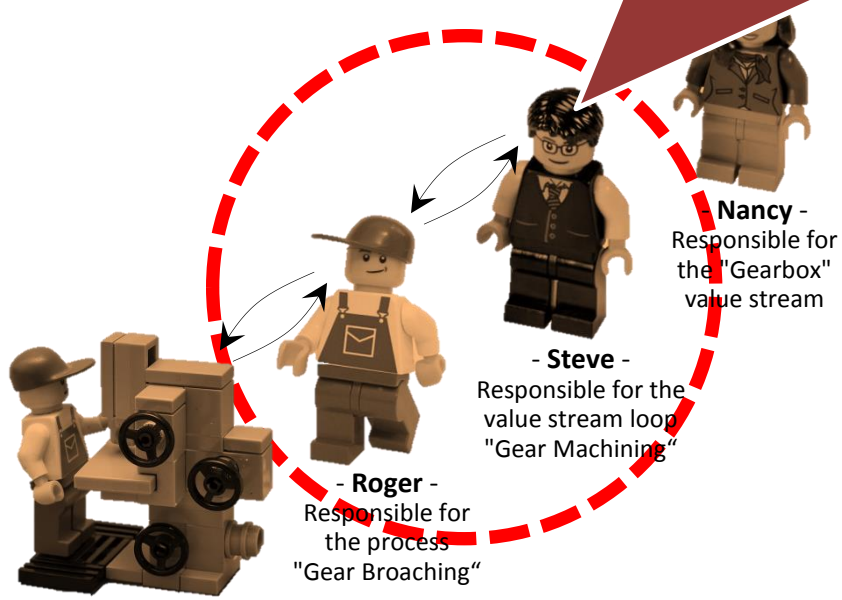
Changeover time		72 min per c/o	**14 Min**

Steve decides to begin by having his Learner Roger work on the **changeover time**, and the Improvement Kata pattern repeats

Roger, a strategic objective is to increase our product variety, bring our value stream's lead time down to 15 days and our inventory of machined gears down to 3 days. In order to achieve this, I need you to help us by reducing Broach changeover time to 14 min. Can you propose to me how the changeover processes would have to function to achieve that?



"Gear Broach" **Operator**

Process: Gear Broaching **Coach:** Steve **Mentee:** Roger

r:	Current condition May 10th	Target condition by August 10th
	30 days	3 days
	50%	50%
rt Every Intervall)	20 days	2 days
	30 variants	40 variants
runners	8 variants	12 variants
specials	22 variants	28 variants
	10 variants	16 variants
runners	8 variants	12 variants
specials	2 variants	4 variants
	15 sh/wk	15 sh/wk
e per shift (h)	8 h/sh	8 h/sh
(min)	480 min/sh	480 min/sh
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Demand per Month	102.000 pcs/mo	121.200 pcs/mo
Workdays per Month	20 days/m	20 days/m
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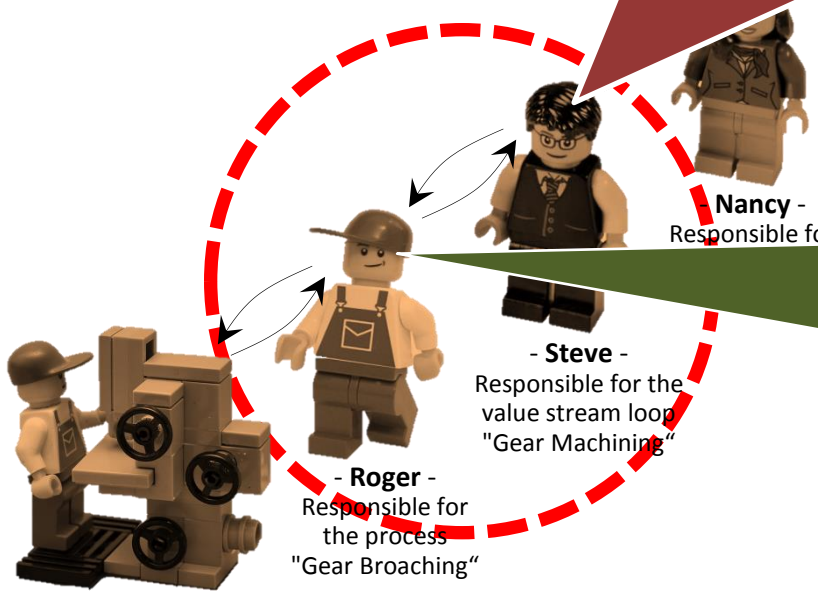
Runtime/shift (sec)	20.400 sec	20.200 sec
(min)	340 min	337 min
Unplanned downtime (%)	20 %	**15%**
Downtime per shift (min)	88 min	66 min
Time left for C/O	12 min	37 min
Necessary C/O per shift	0,2 c/o per sh	2,7 c/o per sh
Target time for changeover	72 min per c/o	**14 Min**

Steve decides to begin by having his Learner Roger work on the **changeover time**, and the Improvement Kata pattern repeats

Roger, a strategic objective is to increase our product variety, bring our value stream's lead time down to 15 days and our inventory of machined gears down to 3 days. In order to achieve this, I need you to help us by reducing Broach changeover time to 14 min. Can you propose to me how the changeover processes would have to function to achieve that?

To do that first I need to analyze the current condition of the changeover process. I'll make a detailed process-step analysis and afterwards define a 14-minute process target condition to agree on and strive for.



Process: Gear Broaching **Coach:** Steve **Mentee:** Roger

r:	Current condition May 10th	Target condition by August 10th
	30 days	3 days
	50%	50%
rt Every Intervall)	20 days	2 days
	30 variants	40 variants
runners	8 variants	12 variants
specials	22 variants	28 variants
	10 variants	16 variants
runners	8 variants	12 variants
specials	2 variants	4 variants
	15 sh/wk	15 sh/wk
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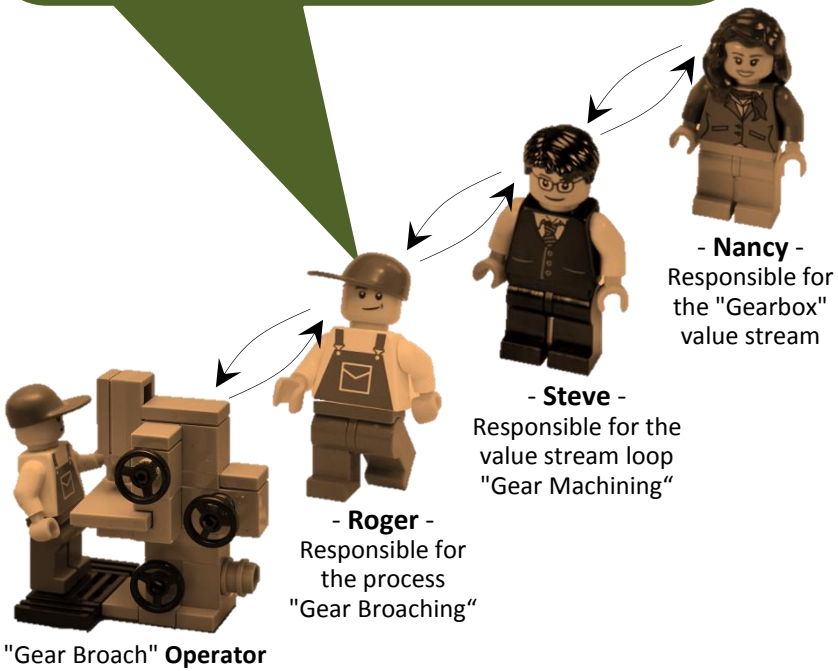
(min)	480 min/sh	480 min/sh
Downtime per shift (min)	88 min	66 min
Time left for C/O	12 min	37 min
Necessary C/O per shift	0,2 c/o per sh	2,7 c/o per sh
Target time for changeover	72 min per c/o	**14 Min**

Steve decides to begin by having his Learner Roger work on the **changeover time**, and the Improvement Kata pattern repeats

As soon as Steve and I have agreed on a process target condition that describes the steps of the desired 14-minute changeover process, Steve will be coaching me daily in pursuing this goal.



4- T-Form	Process: Gear Broaching	Coach: Steve	Mentee: Roger
Process indicator:		**Current condition** May 10th	**Target condition** by August 10th
Stock		30 days	3 days
Safety factor		50%	50%
EPEI (Every Part Every Intervall)		20 days	2 days
Variants		30 variants	40 variants
	runners	8 variants	12 variants
	specials	22 variants	28 variants
C/O per EPEI		10 variants	16 variants
	runners	8 variants	12 variants
	specials	2 variants	4 variants
Shifts per week		15 sh/wk	15 sh/wk
Working time per shift (h)		8 h/sh	8 h/sh
	(min)	480 min/sh	480 min/sh
Breaks per shift (min)		40 min/sh	40 min/sh
Net working time per shift (min)		440 min/sh	440 min/sh
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	(min)	340 min	337 min
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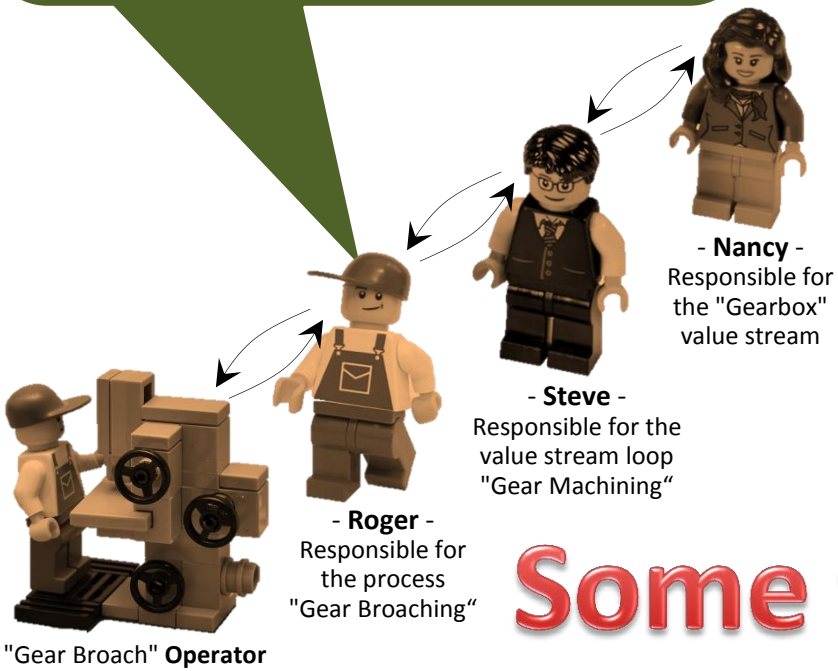
Target time for changeover		72 min per c/o	**14 Min**

Steve decides to begin by having his Learner Roger work on the **changeover time**, and the Improvement Kata pattern repeats

As soon as Steve and I have agreed on a process target condition that describes the steps of the desired 14-minute changeover process, Steve will be coaching me daily in pursuing this goal.



4- T-Form	Process: Gear Broaching	Coach: Steve	Mentee: Roger
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	(min)	480 min/sh	480 min/sh
Breaks per shift (min)		40 min/sh	40 min/sh
Net working time per shift (min)		440 min/sh	440 min/sh
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	(min)	340 min	337 min
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Time left for C/O		12 min	37 min
Necessary C/O per shift		0,2 c/o per sh	2,7 c/o per sh
Target time for changeover		72 min per c/o	**14 Min**

Some time later...

Process Steps Analysis **Process:** Change over **Learner:** Roger

Nr.	Process step	Observations	Current condition Cum.	Current condition Step	Target condition Cum.	Target condition Step
1	Preparation (internal)		20'	20'	0'	0'
2	Lockout		28'	8'	3'	3'
3	Removing the tool		35'	7'	7'	4'
4	Install new tool		45'	10'	14'	7'
5	Run a test part		48'	3'	14'	0'
6	Quality approval		57'	9'	14'	0'
7	Cleanup (internal)		72'	15'	14'	0'
			72'		14'	

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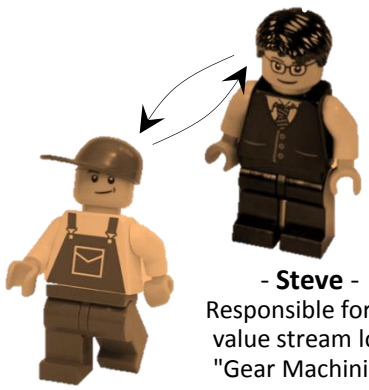
Hi Roger, can you show me what you learned from your process-step analysis?



- **Steve** -
Responsible for the value stream loop "Gear Machining"

- **Roger** -
Responsible for the process "Gear Broaching"

Process Steps Analysis **Process:** Change over **Learner:** Roger

Nr.	Process step	Observations	Current condition Cum.	Current condition Step	Target condition Cum.	Target condition Step
1	Preparation (internal)		20'	20'	0'	0'
2	Lockout		28'	8'	3'	3'
3	Removing the tool		35'	7'	7'	4'
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7	Cleanup (internal)		72'	15'	14'	0'
			72'		14'	

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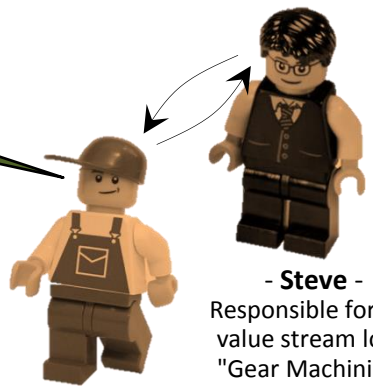
The current changeover process consists of 7 steps which take 72 minutes.

Hi Roger, can you show me what you learned from your process-step analysis?



- **Steve** -
Responsible for the value stream loop "Gear Machining"

- **Roger** -
Responsible for the process "Gear Broaching"

Process Steps Analysis **Process:** Change over **Learner:** Roger

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7	Cleanup (internal)		72'	15'	14'	0'
			72'		14'	

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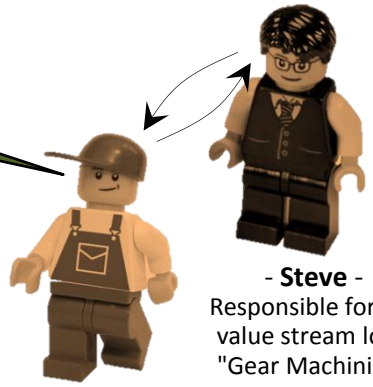
To achieve a 14 minute changeover I've described a proposed target condition of desired steps and times.

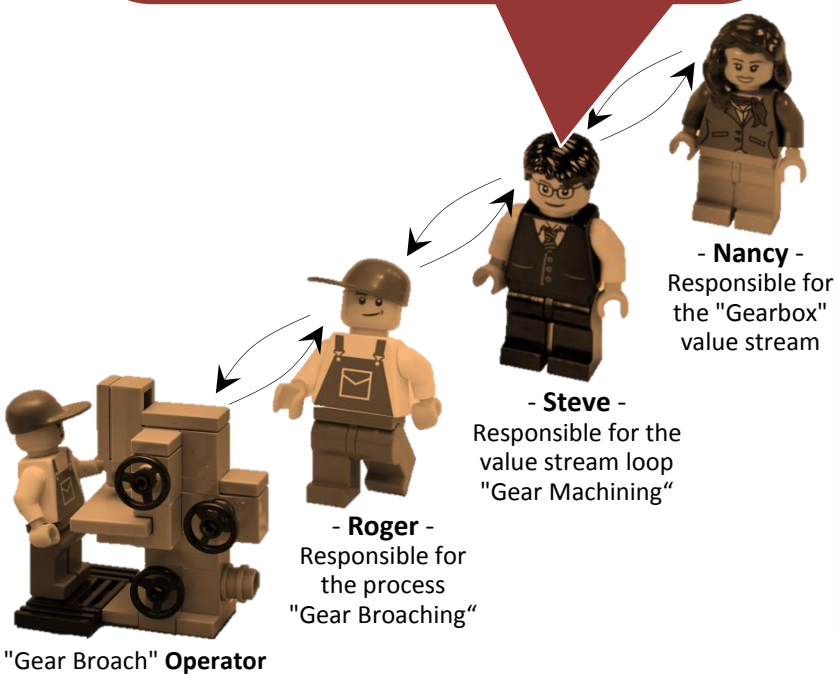


- **Steve** -
Responsible for the value stream loop "Gear Machining"

- **Roger** -
Responsible for the process "Gear Broaching"

Define Roles by Theme

I record the improvement themes, measureable goals, achieve-by dates and responsibilities in a Theme/Roles matrix
This is so we all know what we're working on and why.



1- Theme-Role-Matrix	Coach: Steve			Date: May 10th	
Theme	Target	Achieve-by date	② Mentee	③ Coach/Mentor	④ Coach-Coach
Pc/t Broaching	10 Sec.	T.B.D.	T.B.D.	Steve	Nancy
Downtime Broach	15%	T.B.D.	T.B.D.	Steve	Nancy
Changeover	Max 14 Min	June 10th	Roger	Steve	Nancy

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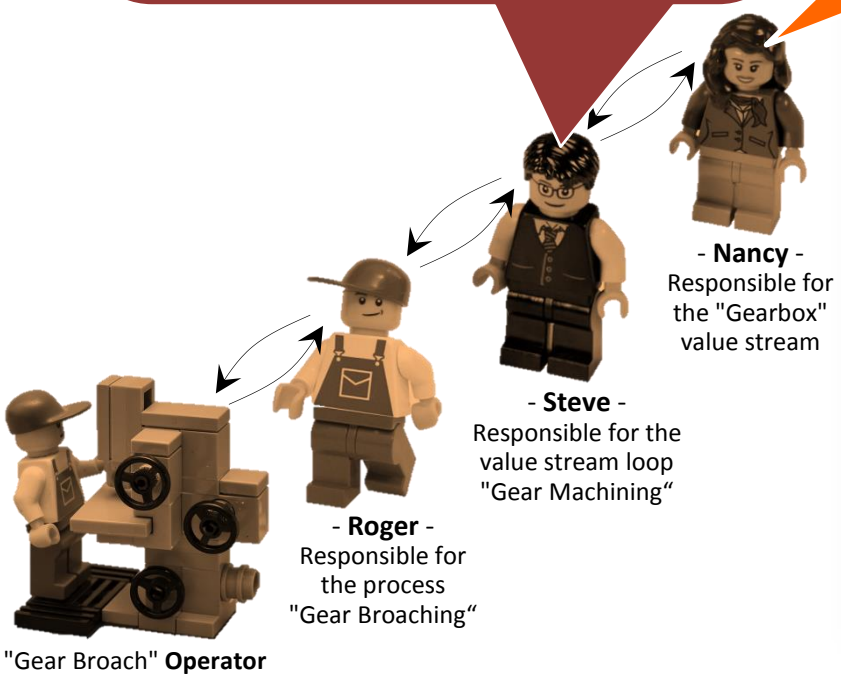
I record the improvement themes, measureable goals, achieve-by dates and responsibilities in a Theme/Roles matrix
This is so we all know what we're working on and why.

With this overview we can coordinate the improvement activities along my entire Gearbox value stream, corresponding to the goal of 15-day lead time.



Coach: Steve Date: May 10th

Theme	Target	Achieve-by date	② Mentee	③ Coach/Mentor	④ Coach-Coach
Pc/t Broaching	10 Sec.	T.B.D.	T.B.D.	Steve	Nancy
Downtime Broach	15%	T.B.D.	T.B.D.	Steve	Nancy
Changeover	Max 14 Min	June 10th	Roger	Steve	Nancy

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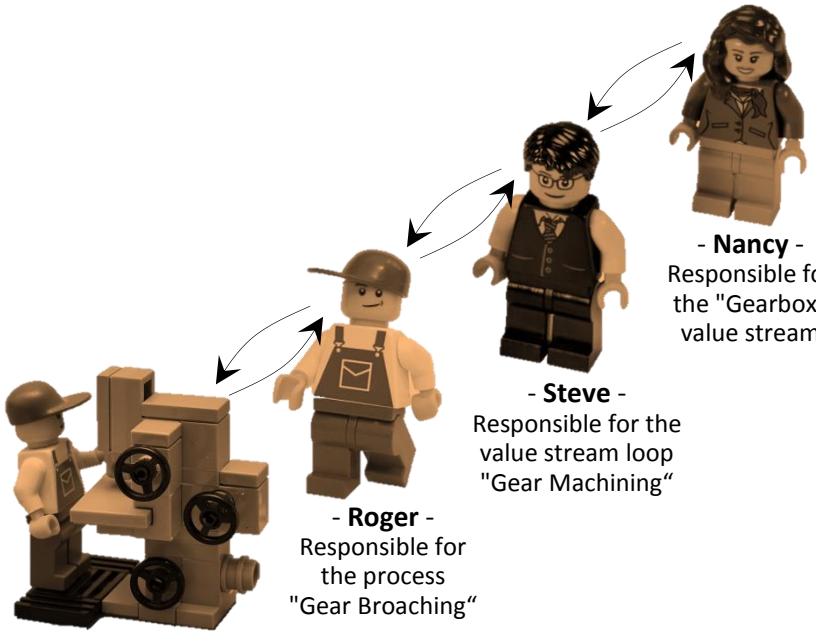
Establish the Schedule for Coaching Cycles

Steve has a weekly schedule of defined coaching-cycle appointments. Scheduled coaching cycles are done between 9:00 and 11:00 AM. Additional coaching cycles may be done as needed after that.

No other meetings are scheduled between 9:00 and 11:00 AM

These are all of Steve's scheduled coaching cycles



3- Weekly coaching plan Coach: Steve From: May 10 Until: June10

	Monday		Tuesday		Wednesday		Thursday		Friday	
	Plan	Is	Plan	Is	Plan	Is	Plan	Is	Plan	Is
8:00										
9:00	9:00 Wagner 20 min		9:00 Wagner 20 min		9:00 Wagner 20 min		9:00 Wagner 20 min		9:00 Wagner 20 min	
	9:20 Peters 20 min		9:20 Peters 20 min		9:20 Peters 20 min		9:20 Peters 20 min		9:20 Peters 20 min	
	9:40 Müller 20 min		9:40 Müller 20 min		9:40 Müller 20 min		9:40 Müller 20 min		9:40 Müller 20 min	
10:00	10:00 Heine 20 min		10:00 Heine 20 min		10:00 Heine 20 min		10:00 Heine 20 min		10:00 Heine 20 min	
	10:20 Bäcker 20 min		10:20 Bäcker 20 min		10:20 Bäcker 20 min		10:20 Bäcker 20 min		10:20 Bäcker 20 min	
	10:40 Schmidt 20 min		10:40 Schmidt 20 min		10:40 Schmidt 20 min		10:40 Schmidt 20 min		10:40 Schmidt 20 min	
11:00										
12:00										
13:00										
14:00										
15:00										
16:00										
17:00										
18:00										
19:00										

Daily planned coachings 2h/day

Unplanned coachings

√ = Coaching cycle happened on time / **X** = Coaching cycle didn't happen

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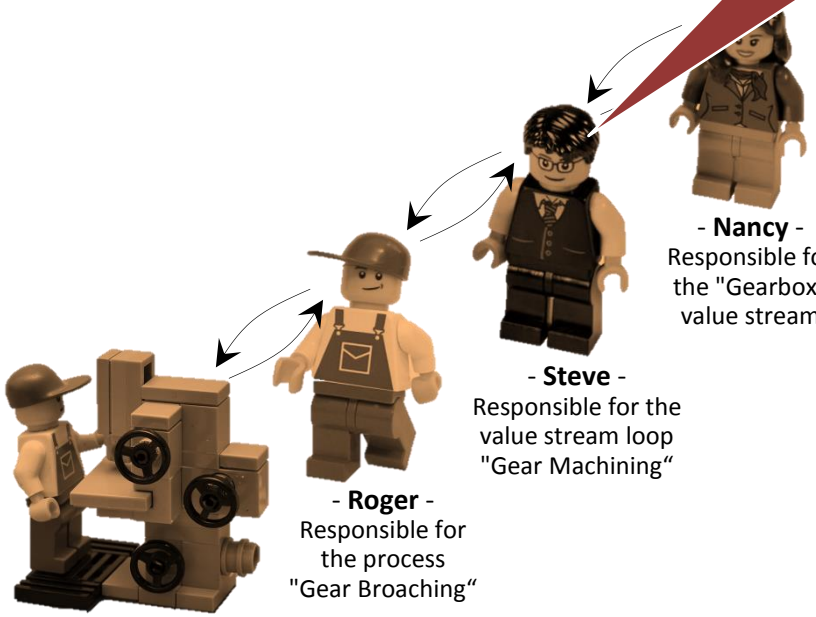
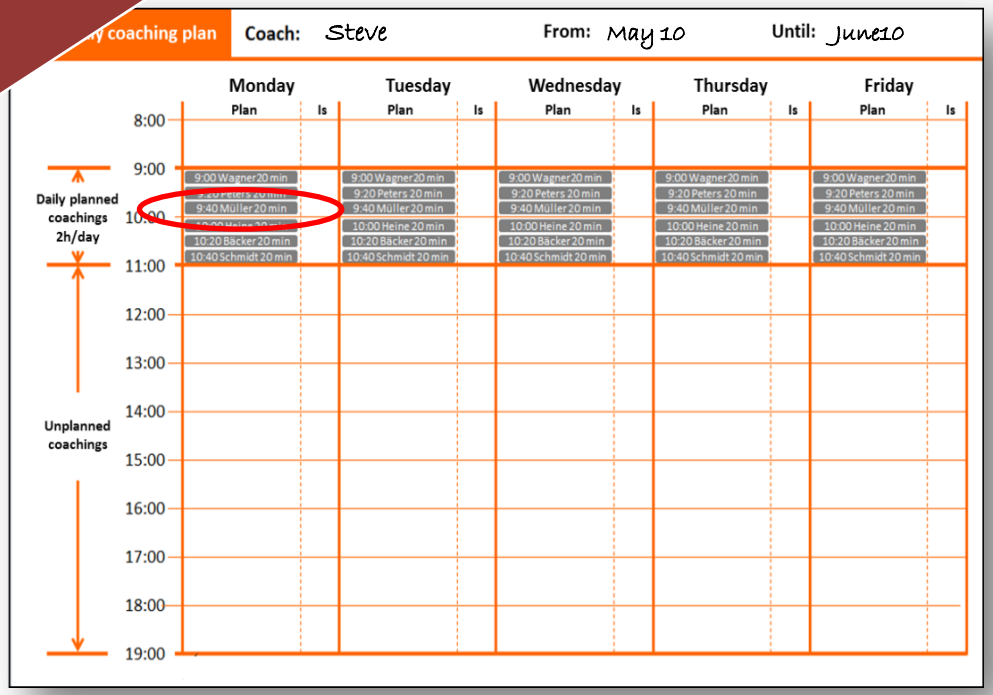
Roger and I will meet daily from 9:40 to 10:00 for a coaching cycle, plus additionally as needed. The coaching-cycle schedule helps me maintain an overview of my coaching.

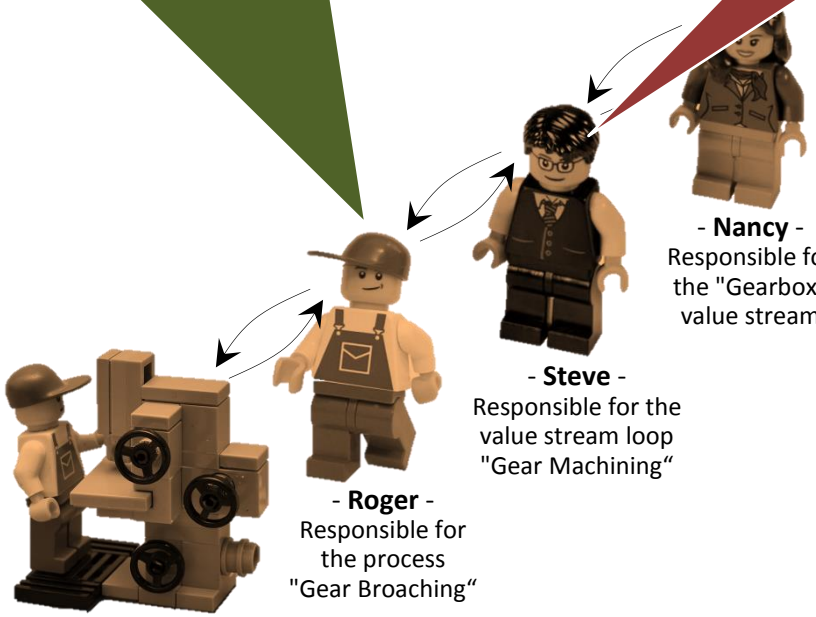




√ = Coaching cycle happened on time / **X** = Coaching cycle didn't happen

I know at what time Steve is coming to the Broaching process every day and that he'll ask the 5 questions, so I have the latest facts & data ready. Our coaching cycles are very effective. I receive support and feel valued.

Roger and I will meet daily from 9:40 to 10:00 for a coaching cycle, plus additionally as needed. The coaching-cycle schedule helps me maintain an overview of my coaching.

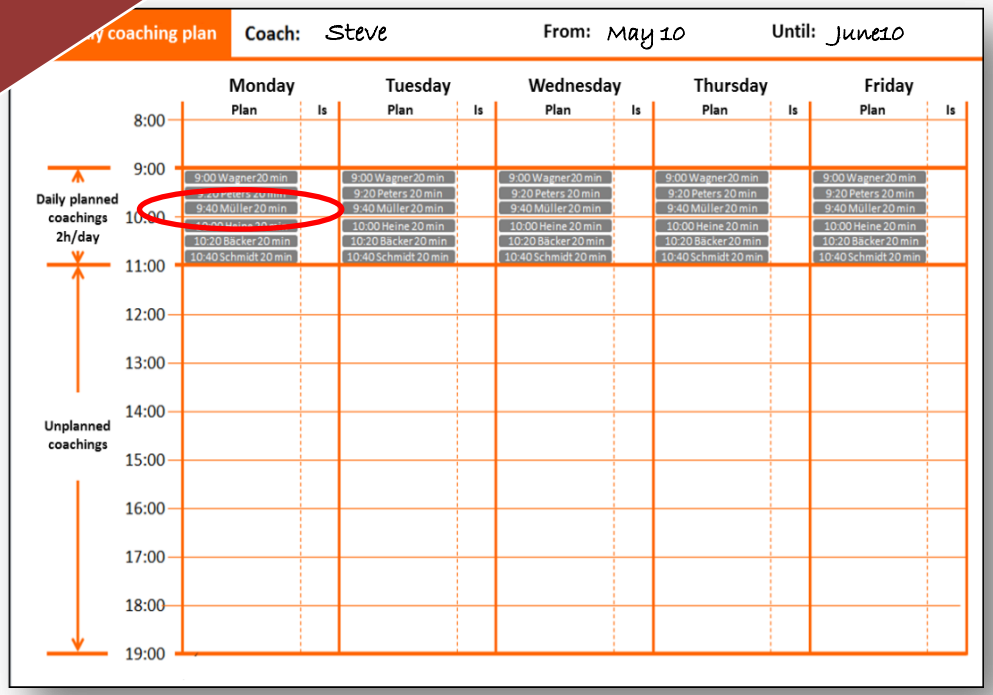


- **Nancy** -
Responsible for the "Gearbox" value stream

- **Steve** -
Responsible for the value stream loop "Gear Machining"

- **Roger** -
Responsible for the process "Gear Broaching"

"Gear Broach" **Operator**



y coaching plan | Coach: Steve | From: May 10 | Until: June10

	Monday		Tuesday		Wednesday		Thursday		Friday	
	Plan	Is	Plan	Is	Plan	Is	Plan	Is	Plan	Is
8:00										
9:00	9:00 Wagner 20 min		9:00 Wagner 20 min		9:00 Wagner 20 min		9:00 Wagner 20 min		9:00 Wagner 20 min	
	9:20 Peters 20 min		9:20 Peters 20 min		9:20 Peters 20 min		9:20 Peters 20 min		9:20 Peters 20 min	
	9:40 Müller 20 min		9:40 Müller 20 min		9:40 Müller 20 min		9:40 Müller 20 min		9:40 Müller 20 min	
10:00			10:00 Heine 20 min		10:00 Heine 20 min		10:00 Heine 20 min		10:00 Heine 20 min	
	10:20 Bäcker 20 min		10:20 Bäcker 20 min		10:20 Bäcker 20 min		10:20 Bäcker 20 min		10:20 Bäcker 20 min	
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Daily planned coachings 2h/day

Unplanned coachings

√ = Coaching cycle happened on time / **X** = Coaching cycle didn't happen

Phase II: EXECUTION
Coaching Cycles Begin

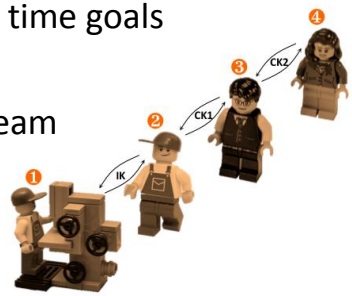
Now daily coaching cycles between Learner and Coach begin

Phase One

1- Current State Value Stream Map
2- Future State Value Stream Map in the direction of the organization's strategic objective
3- Split the FS Value Stream into Loops incl. each loop's inventory & lead time goals

*(now move to an **individual process** inside a VS loop)*

4- Develop the Next Target Condition mathematically from the value-stream loop goals **and Define Specific Improvement Themes**
5- Define Roles by Theme (Learner, Coach, 2nd Coach)
6- Establish the Schedule for Coaching Cycles



Phase Two

7- Process-Level Coaching Cycles Begin! Daily + more frequently as needed
7.1- Coach uses the *Five Coaching Kata Questions*
7.2- Periodic Observation of Coaching Cycles by the 2nd Coach

8- Value Stream Coaching Cycle Daily
8.1- Also using the *Five Coaching Kata Questions*

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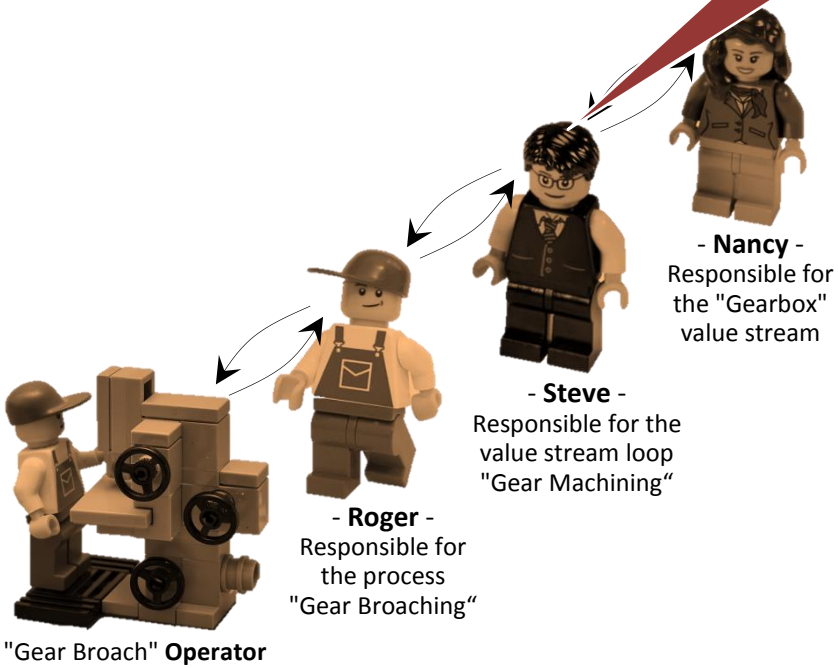
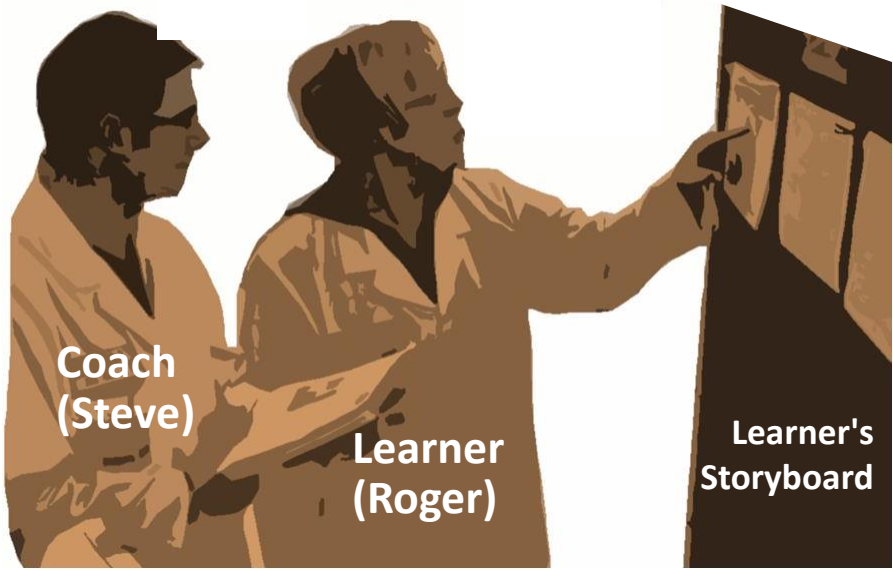
Steve and Roger do at least one coaching cycle every day on the Broaching Process's current improvement theme: Changeover time

What is the target condition for the changeover process?





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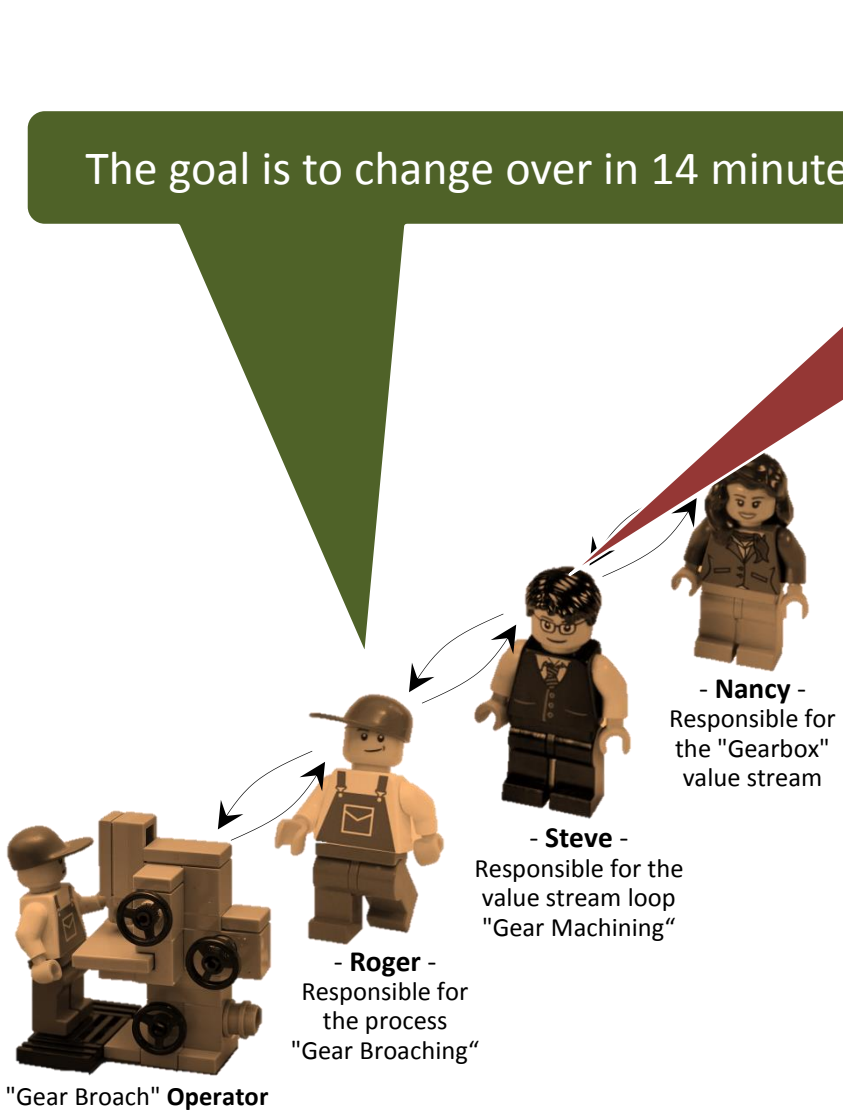

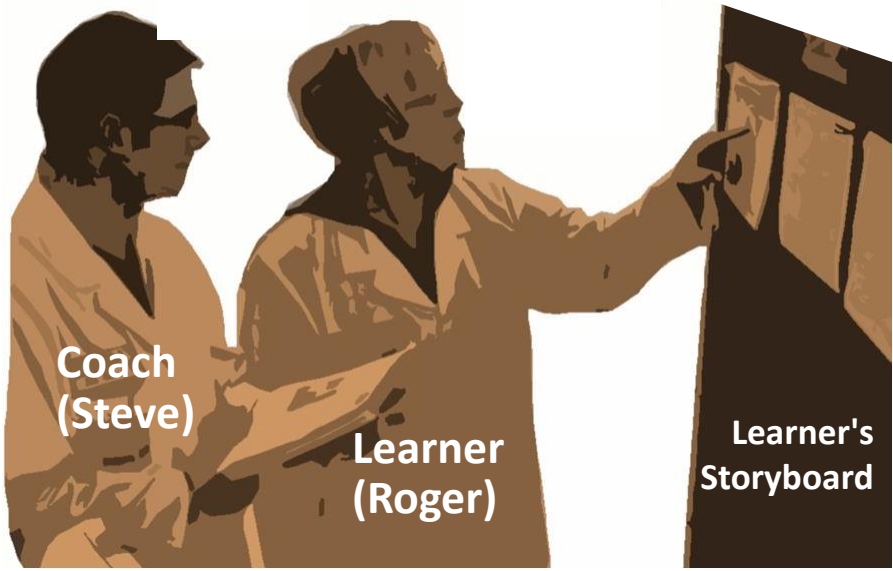

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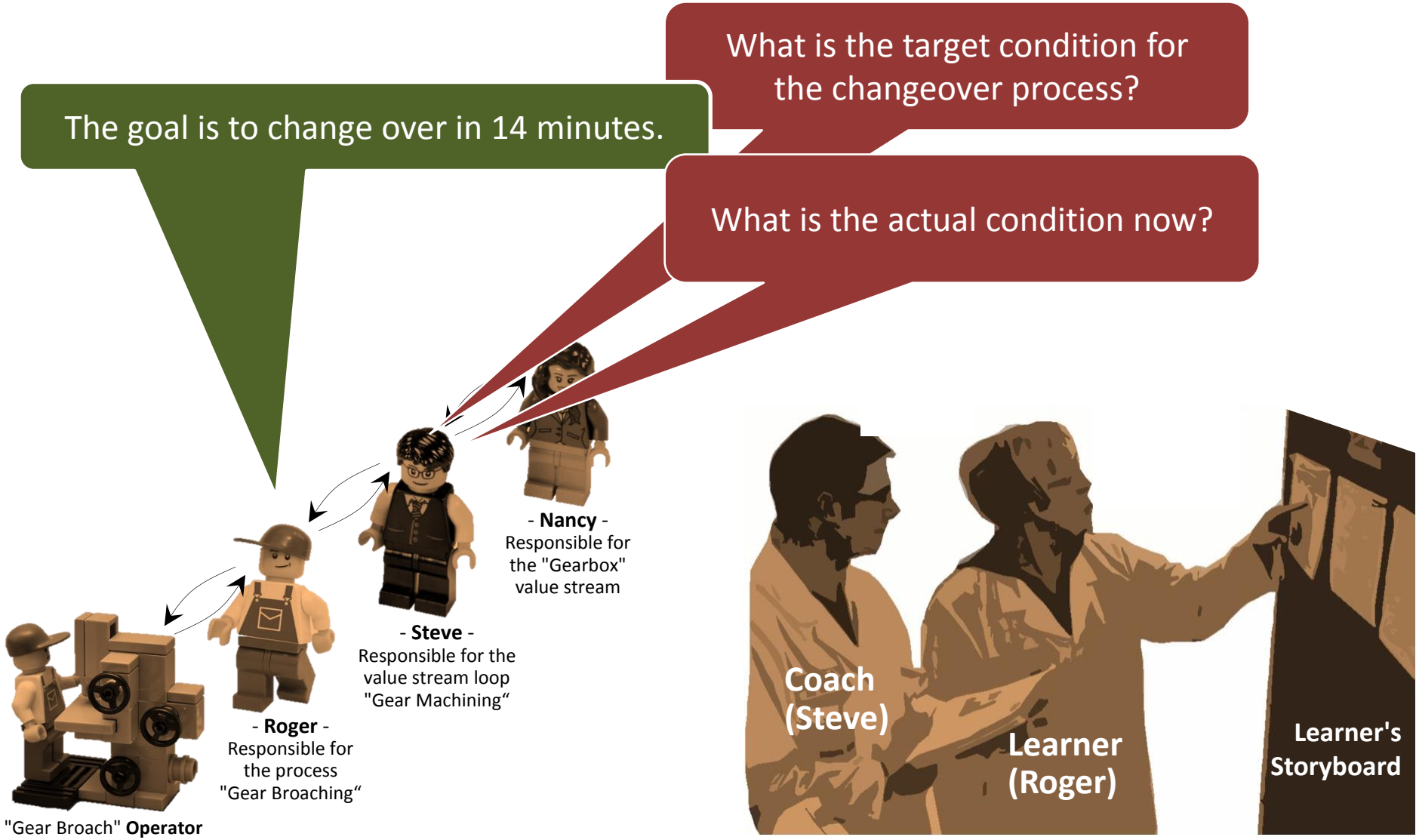

Process Steps Analysis | Prozess: Changeover | ☐ Linie gesamt ☒ Mitarbeiter Nr. 2 | Prozessbeobachter: Roger

Nr.	Tätigkeitsbeschreibung	Bemerkungen	Ist-Zeit Laufend	Ist-Zeit Schritt	Ziel-Zeit Laufend	Ziel-Zeit Schritt
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2	Lockout		28'	8'	3'	3'
3	Removing the tool		35'	7'	7'	4'
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7	Cleanup (internal)		72'	15'	14'	0'
Gesamt-Zeiten			72'		14'	

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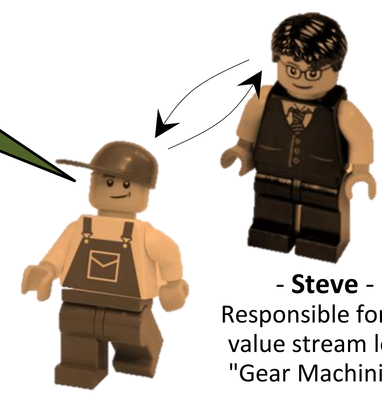
The current changeover time is 72 minutes.



- Steve -
Responsible for the value stream loop "Gear Machining"

- Roger -
Responsible for the process "Gear Broaching"

Process Steps Analysis

Prozess: Changeover ☐ Linie gesamt ☒ Mitarbeiter Nr. 2 Prozessbeobachter: Roger

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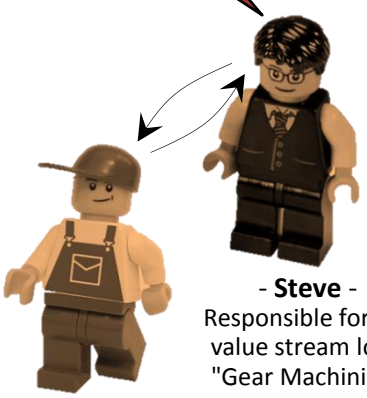
What was your last step and what did you learn?



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Process Steps

Prozess: Changeover ☐ Linie gesamt ☒ Mitarbeiter Nr. 2 Prozessbeobachter: Roger

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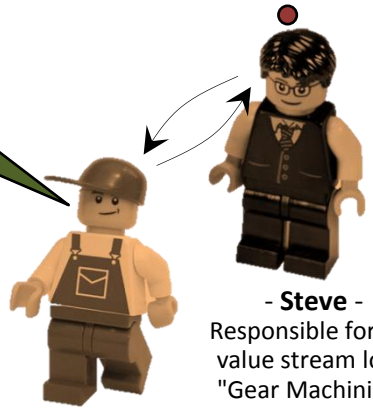
I observed the changeover process and measured the time each step took.

I need to see if Roger is working scientifically



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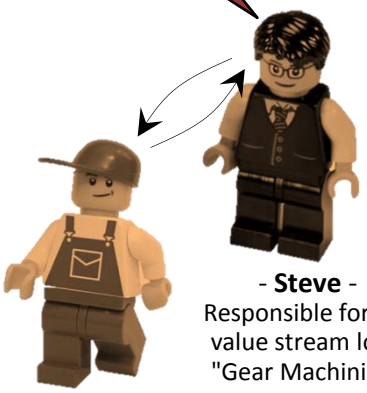
What obstacles do you think are preventing you from reaching the target condition?



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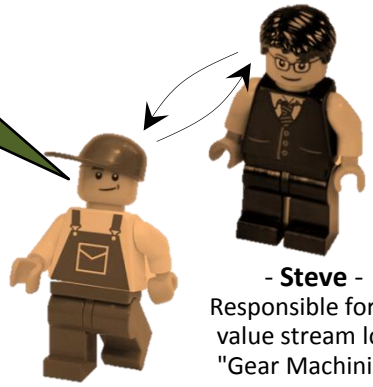
Lockout, removing the tool and installing the new tool all take too long.



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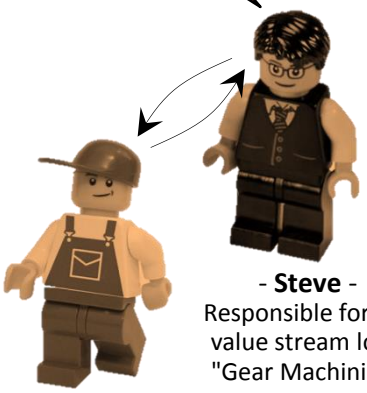
Which one obstacle are you addressing now?



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Next I'd like to focus on the installation of the new tool.

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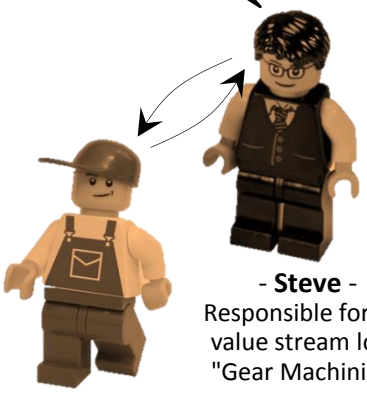
This is the Learner's next PDCA experiment

What is your next step and what do you expect?



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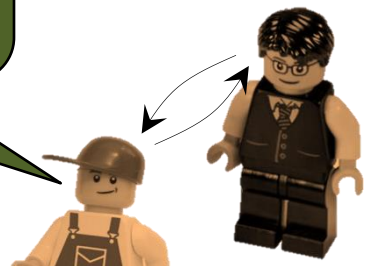
I'd like to standardize the fasteners. I expect this to reduce the time for this step from 10 minutes to 7 minutes.



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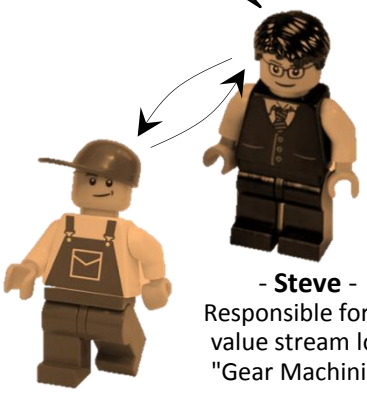
When can we go and see what you've learned from taking that step?



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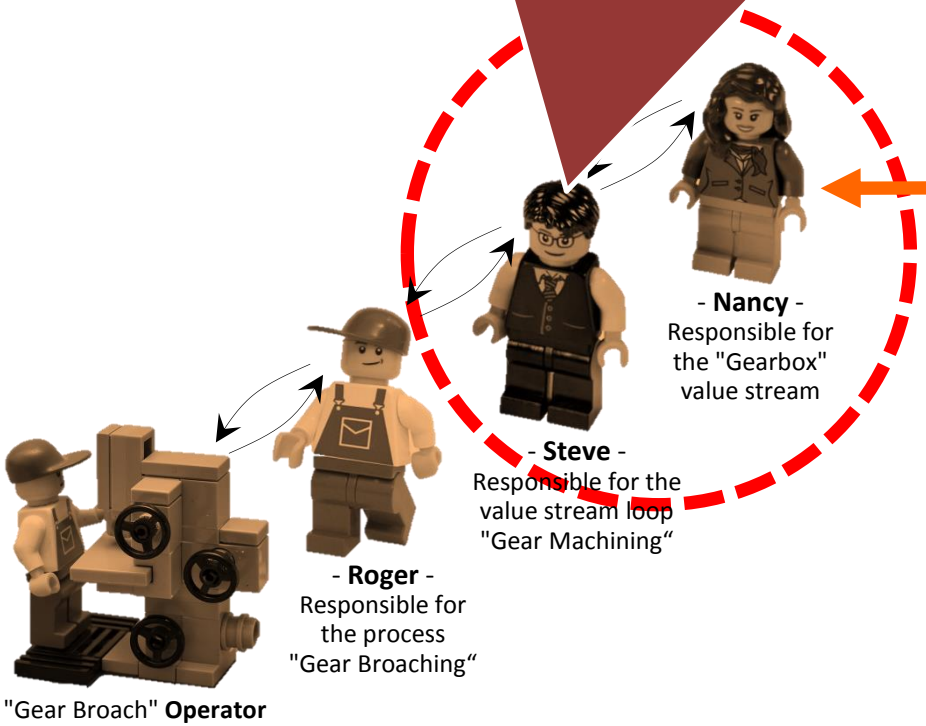
...and so on!

Upward Communication of Current Condition and Lessons Learned

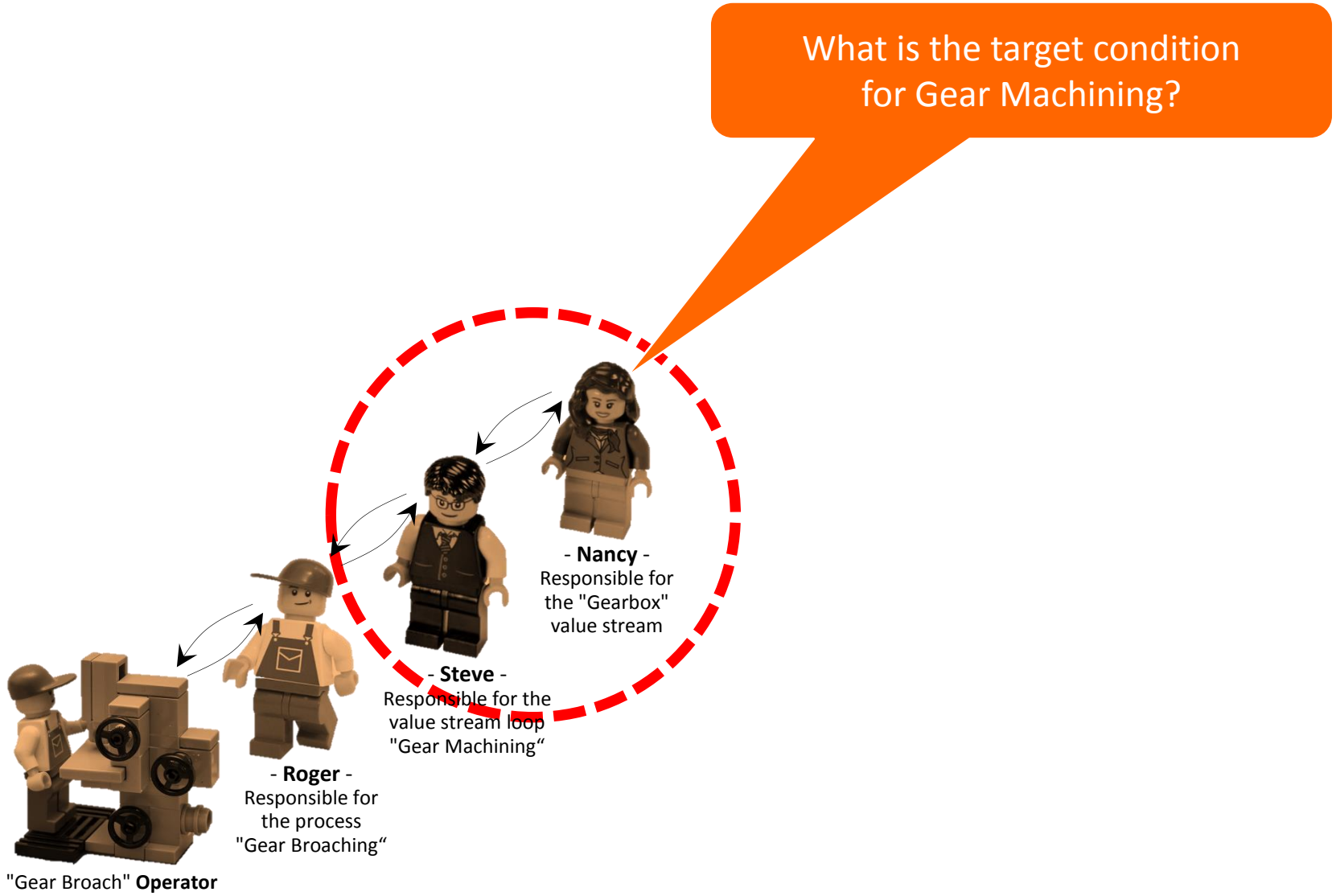
In addition to acting as 2nd Coach, Nancy meets with Steve daily for a value stream coaching cycle, which also follows the pattern of the Five Coaching Kata Questions.

After I coach my team members from 9:00 to 10:40, I meet with Nancy daily from 10:40 to 11:00. Through her coaching I inform Nancy about the current condition and improvement activities in Gear Machining.



Nancy updates her value stream maps based on what she learns in these coaching cycles.

Nancy meets with Steve daily for a value stream coaching cycle



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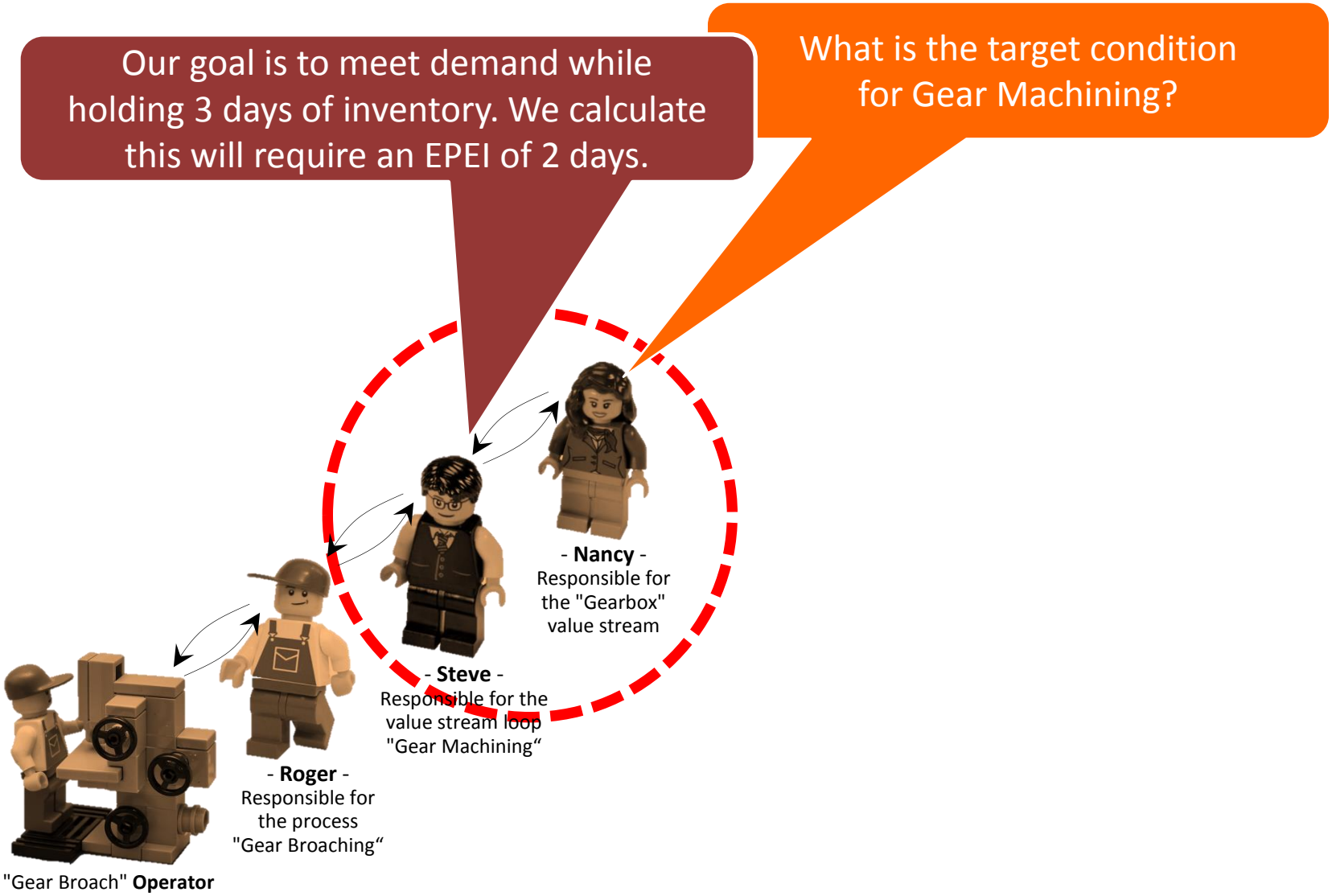

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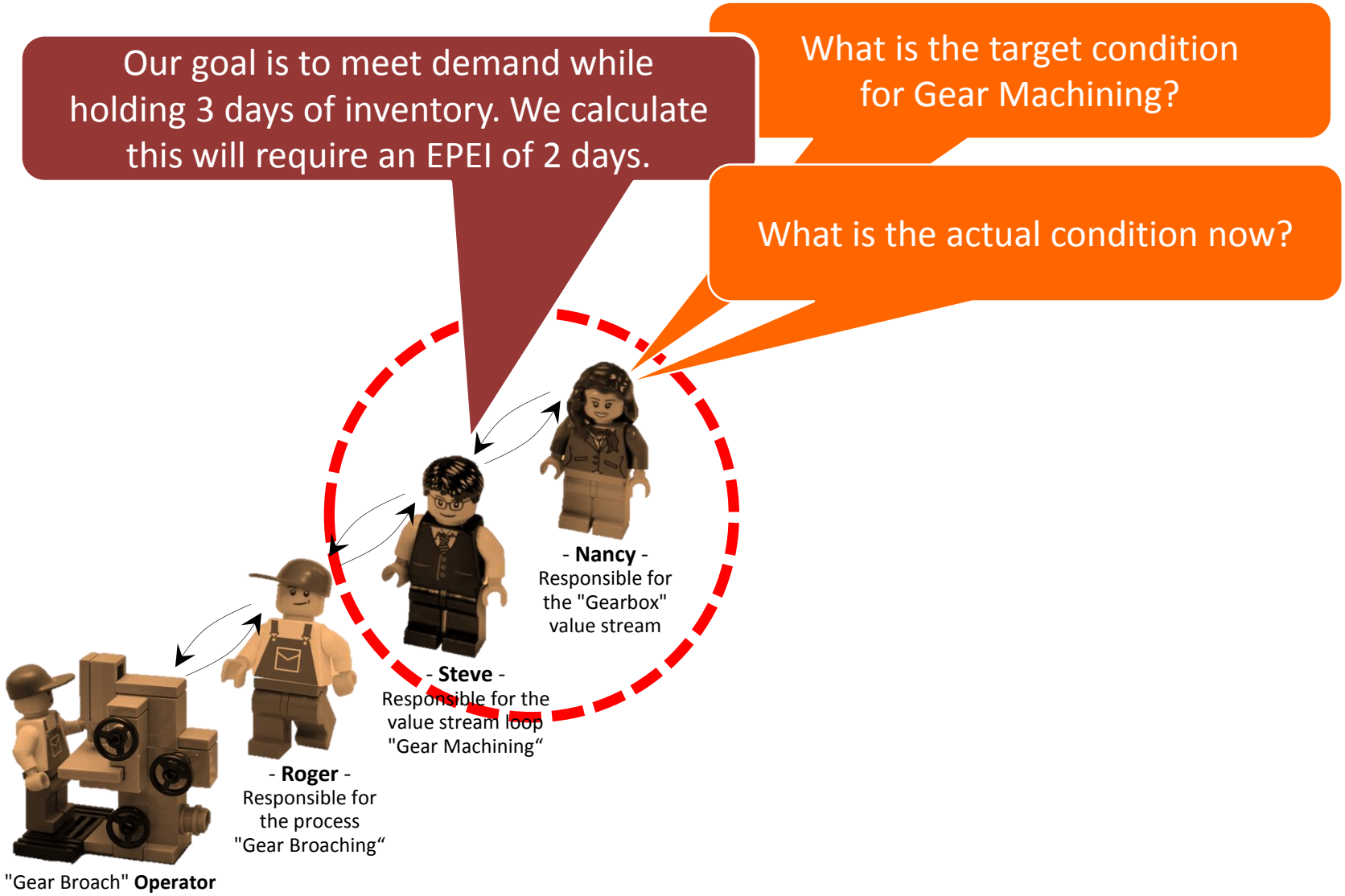

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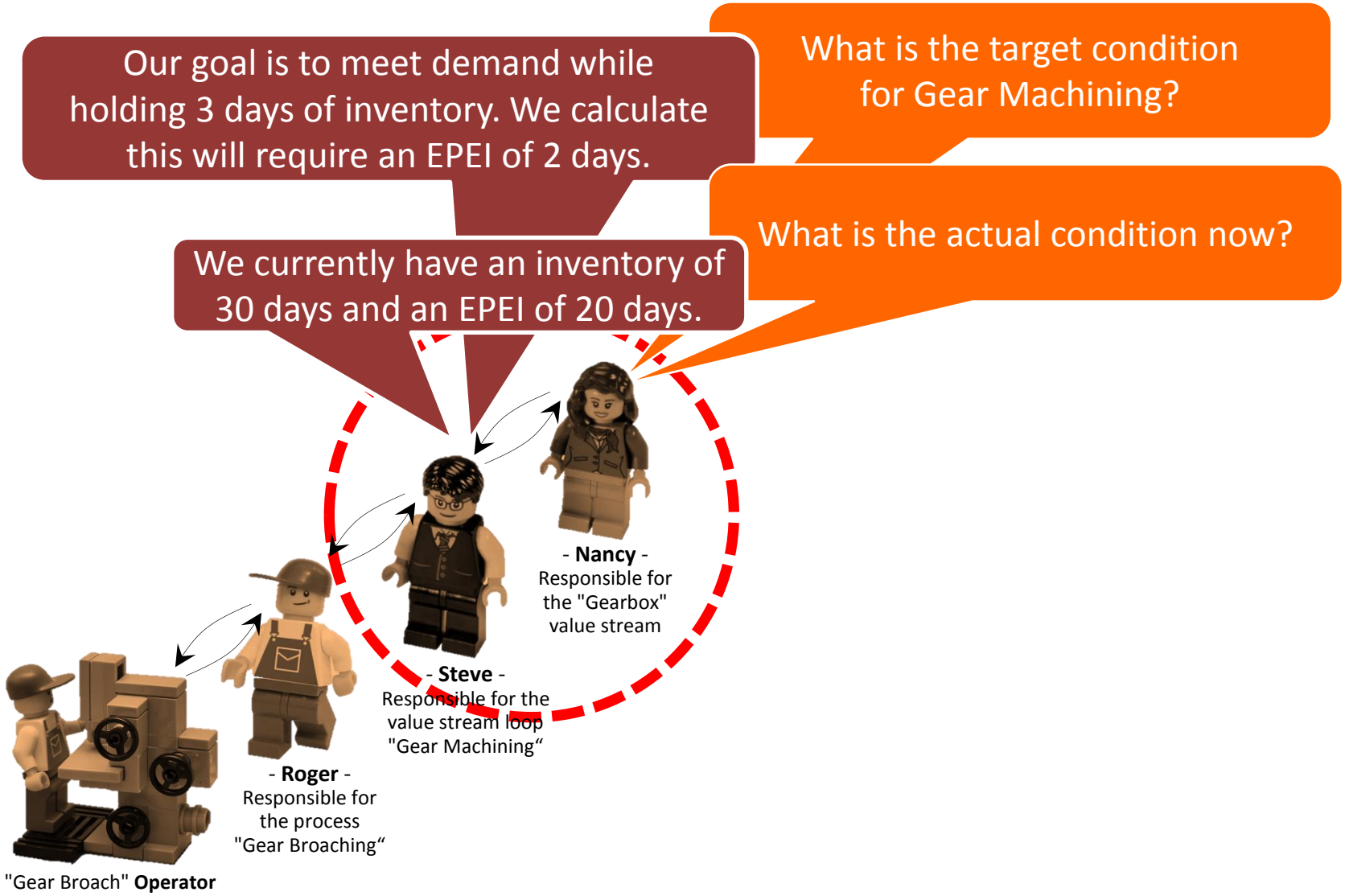


Nancy meets with Steve daily for a value stream coaching cycle

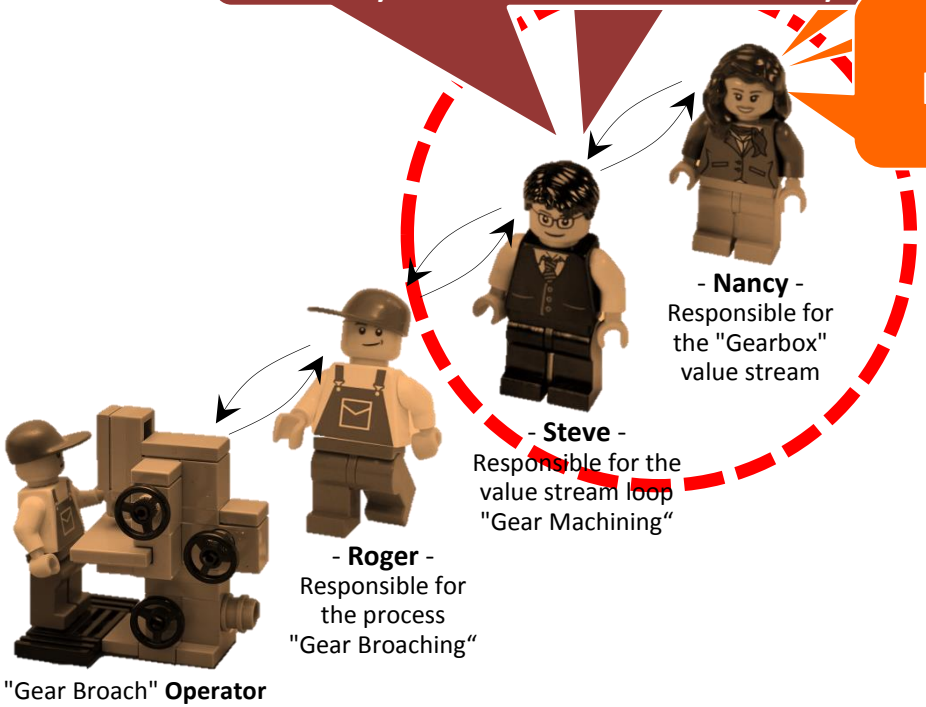
Our goal is to meet demand while holding 3 days of inventory. We calculate this will require an EPEI of 2 days.

What is the target condition for Gear Machining?

What is the actual condition now?

We currently have an inventory of 30 days and an EPEI of 20 days.

What obstacles do you think are preventing you from reaching the target condition?



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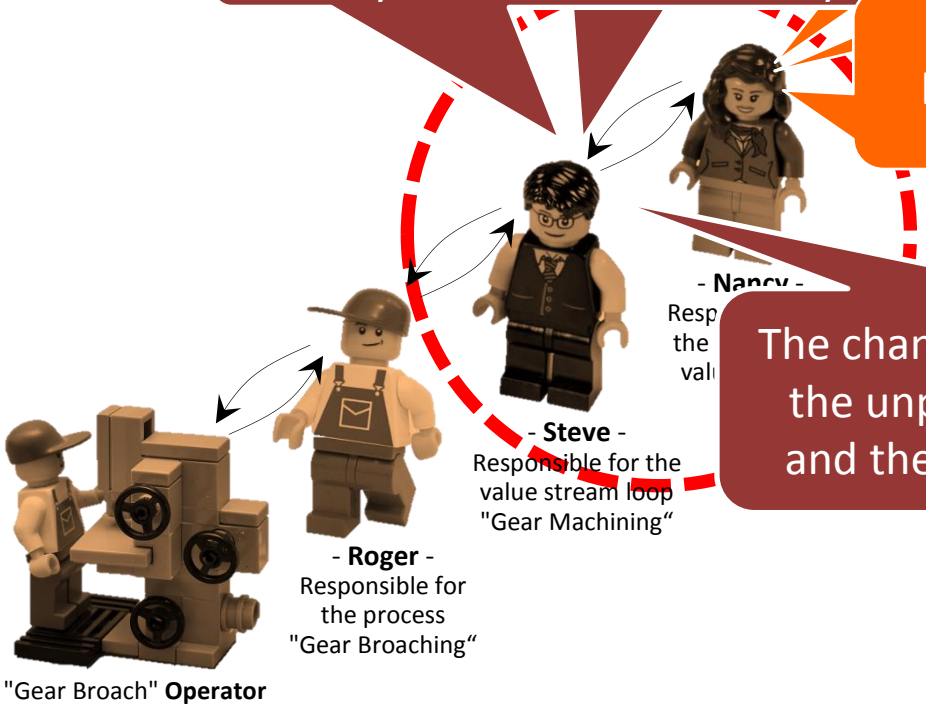

The changeover time of 72 minutes, the unplanned downtime of 20% and the cycle time of 12 seconds.

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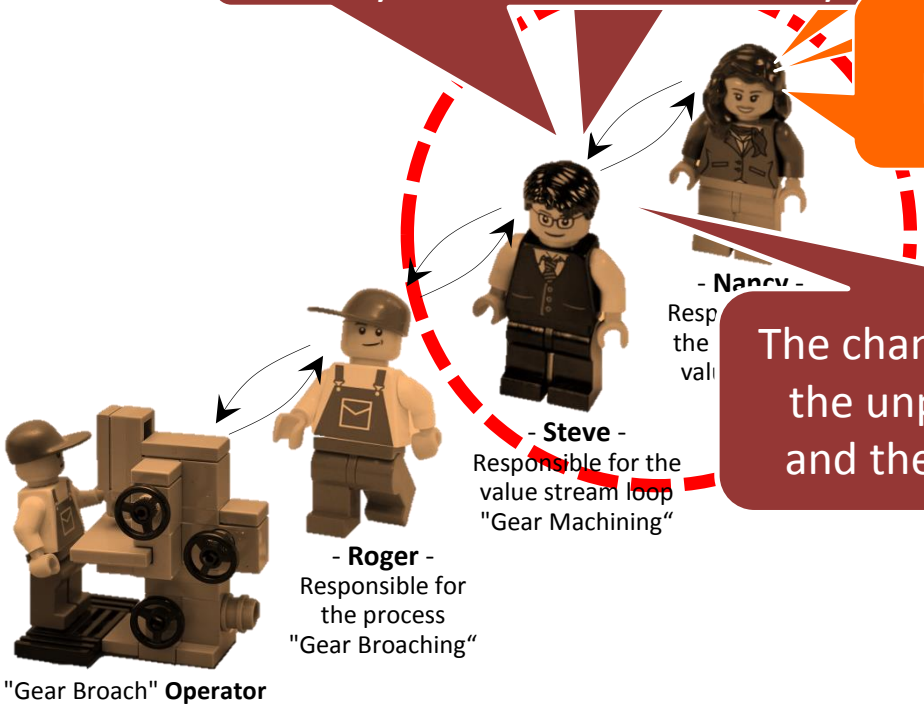

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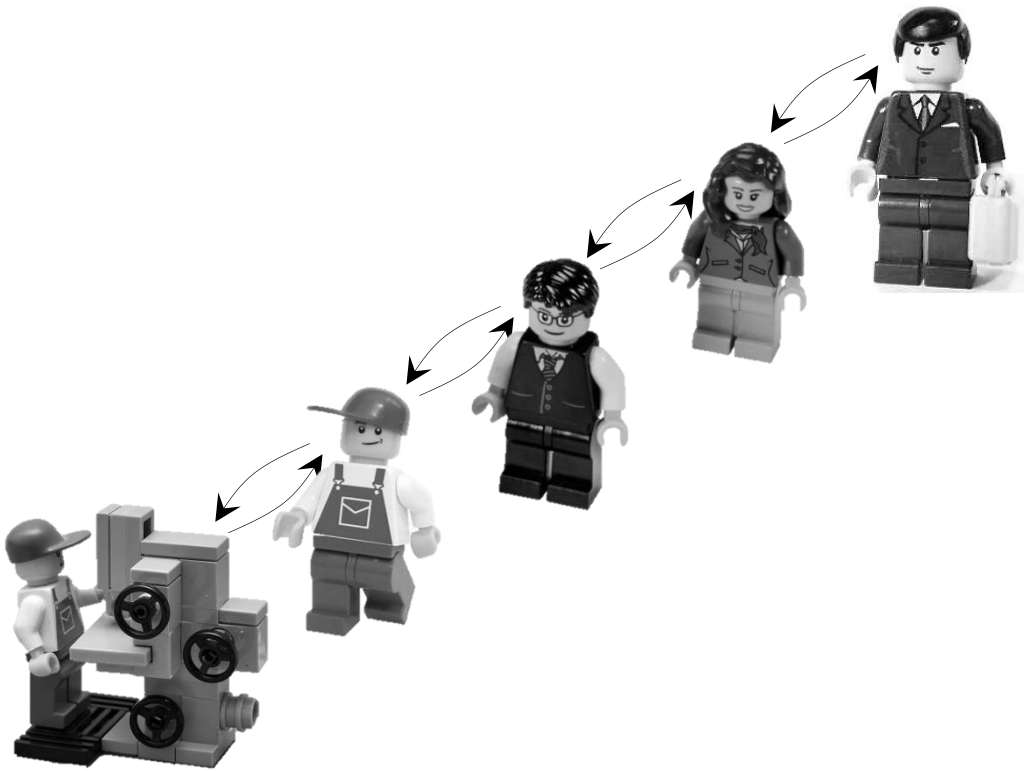
...and so on!

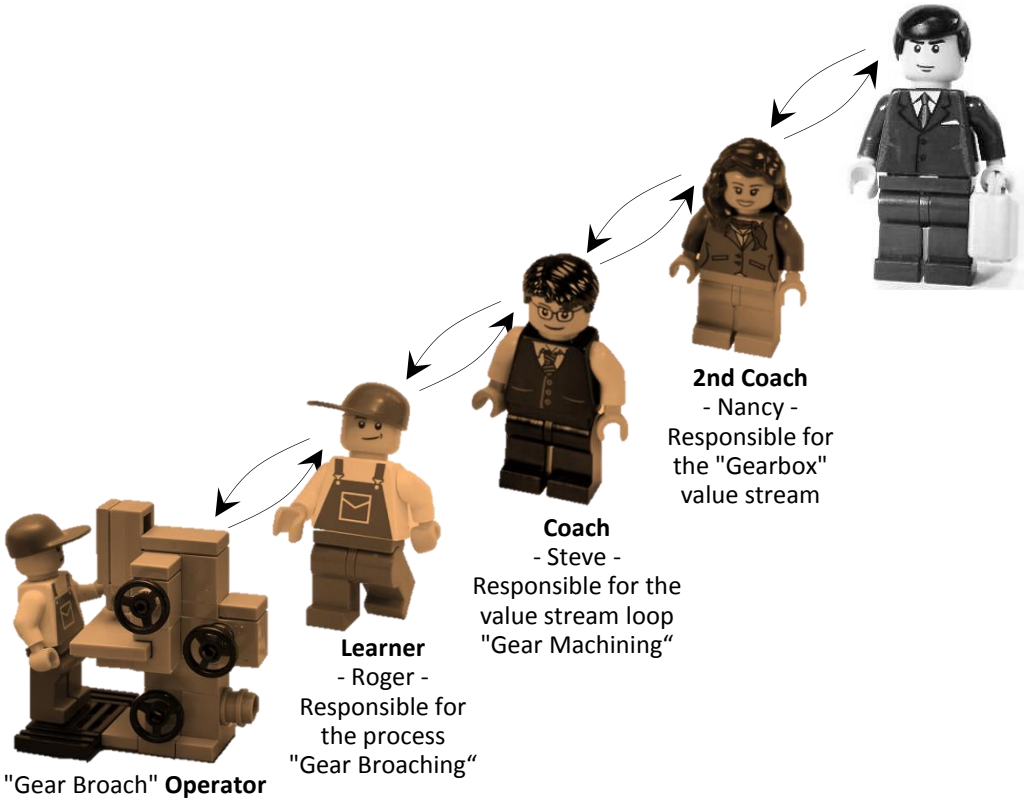
Summary



Notice the Fractal Nature of the Thinking

The pattern of thinking and acting – which is reflected in the 5 Coaching Kata Questions – repeats up and down the organization. The coaching cycles are a connecting element in this layered, nested approach.

The person at each level is a coach to the level below and a learner to the level above… all following the same basic pattern.



An ***obstacle*** to a strategic initiative of the company is the gear box line's long lead time.

Achieving a gear box lead time of 15 days becomes Nancy's **target condition**.

One **obstacle** preventing Nancy from achieving her target condition is the 30 days of inventory in machining.

Steve's target condition is to meet demand while holding only 3 days of inventory. To do this, he will need to cycle through his part count every 2 days.

The **obstacles** preventing gear machining from achieving the target condition are:
- **72 minute changeovers.**
- 15% Unplanned downtime.
- 12 second cycle times.

In gear broaching.

With Steve's coaching, Roger will end up addressing each of these issues in turn. But his **first target condition involves the obstacle of 72 minute changeovers.**

The **obstacles** to a 14 minute changeover are :
- Lockout
- Removing the tool
- And installing the tool

all taking too long.

The **obstacle** Roger is addressing *now* is the tool installation.

Roger believes that the non-standard fasteners are in the way of getting this step from 10 minutes to 7.

Therefore, his first experiment is going to be to standardize the fasteners and test his assumption.

Fractal **means that at each level down the procedure and thinking pattern are the same, only the content gets smaller in scope**

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An *obstacle* to a strategic initiative of the company is the gear box line's long lead time.

Reducing th
from 30 da
Nancy's tar

e preventing Nancy from
r target condition is the
nventory in machining.

Nancy is developing Roger's capability by coaching him through the Coaching Kata as he works with Steve.

Roger is coaching Steve, but Nancy is responsible for the results in her Value Stream.

The obstacles preventing gear machining from achieving the target condition are:
- 72 minute changeovers.
- 15% Unplanned downtime.
- 12 second cycle times.

In gear broaching.

cles are
t
ing the tool
talling the tool
too long.

Steve is developing Roger's capability by coaching him through the Improvement Kata.

Roger is achieving the results, but Steve is responsible to Nancy for delivering them.

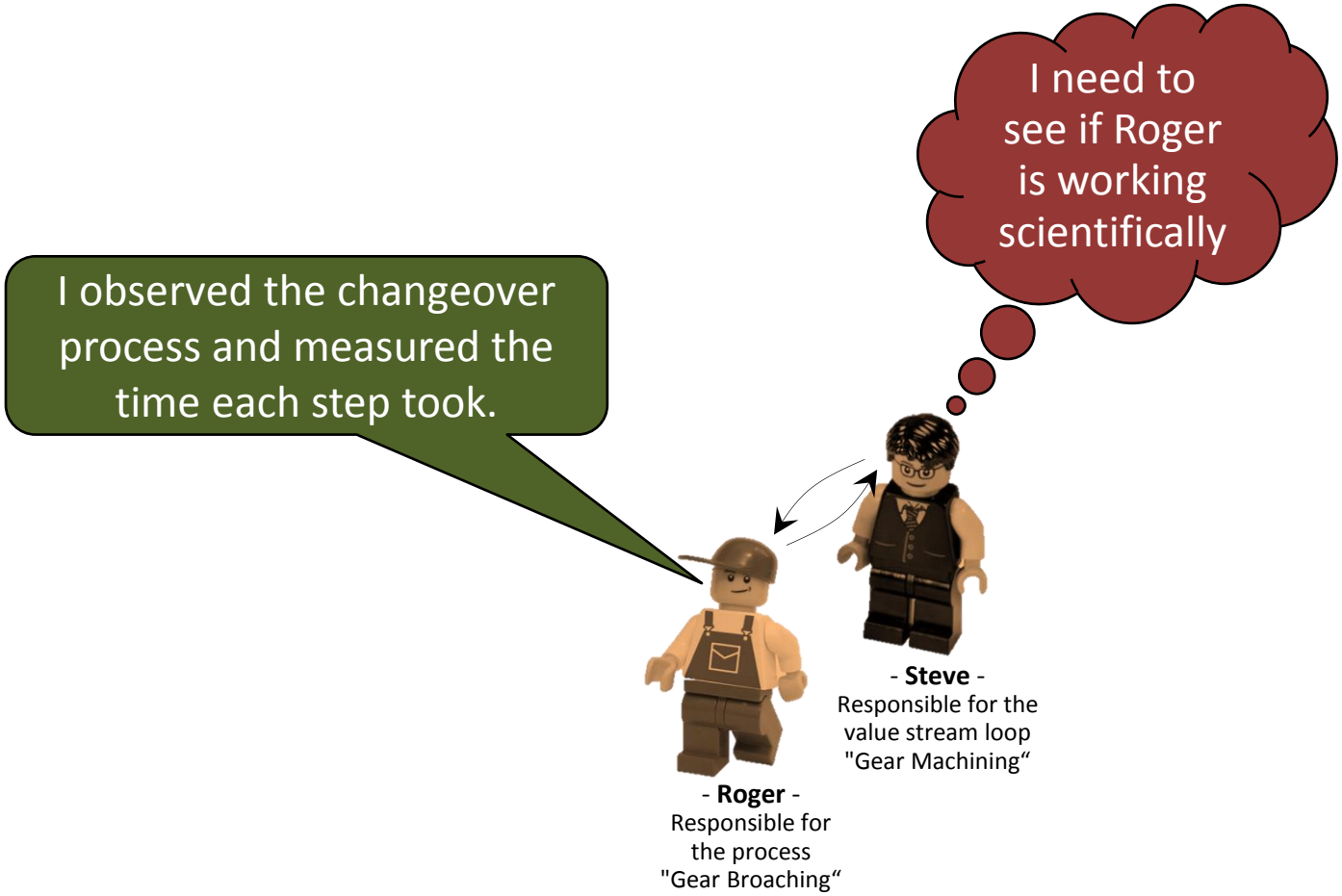
elieves that the non-
d fasteners are in the
getting this step from
minutes to 7.

Therefore, his first experiment is going to be to standardize the fasteners and test his assumption.

The coaching pattern also repeats across the levels

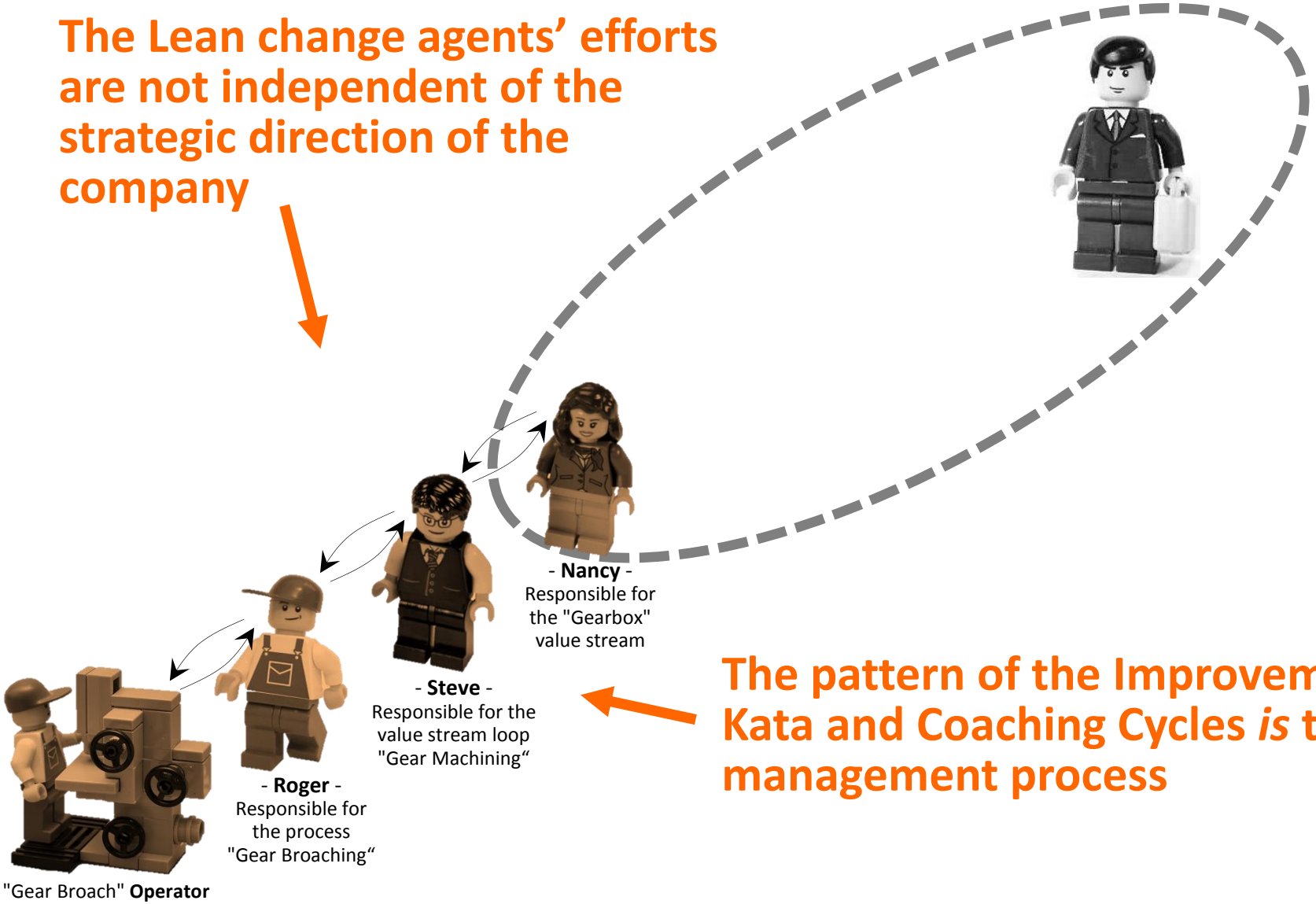
Many coaches struggle with the distinction

Between *„Winning the game“* and *„Developing the players so we can win the game“*



Lean Should Not Be a Separate Activity

The Lean change agents' efforts are not independent of the strategic direction of the company



The pattern of the Improvement Kata and Coaching Cycles *is* the management process

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Last but not least...
This is About Respect for People

It's not this

But this

From *Toyota Kata*, page 142

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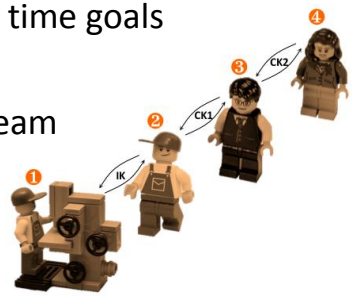
The Steps

Phase One

1- Current State Value Stream Map
2- Future State Value Stream Map in the direction of the organization's strategic objective
3- Split the FS Value Stream into Loops incl. each loop's inventory & lead time goals

*(now move to an **individual process** inside a VS loop)*

4- Develop the Next Target Condition mathematically from the value-stream loop goals **and Define Specific Improvement Themes**
5- Define Roles by Theme (Learner, Coach, 2nd Coach)
6- Establish the Schedule for Coaching Cycles



Phase Two

7- Process-Level Coaching Cycles Begin! Daily + more frequently as needed
7.1- Coach uses the *Five Coaching Kata Questions*
7.2- Periodic Observation of Coaching Cycles by the 2nd Coach

8- Value Stream Coaching Cycle Daily
8.1- Also using the *Five Coaching Kata Questions*

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A systematic and practical approach for

Strategy Deployment

Best Wishes!

Gerardo, Mike, Mark

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