How to Use
Value Stream Mapping Correctly

Combining Value Stream Mapping
and the Improvement Kata

Mike Rother, July 2011

INTRODUCTION

Value stream mapping (VSM) is a Lean method for analyzing the current state and designing a future state for the series of events that take a product or service from its beginning through to the customer.

The book *Learning to See*, which I co-authored with John Shook and Jim Womack, is an instruction manual for VSM. We've not found another tool that works as well for analyzing & designing flows at the system level.

Value Stream Mapping can be used for various purposes, such as:

❑ Helping you quickly understand how a system works from door to door. (I sketch a simple map nearly every time I visit a factory.) ⟶
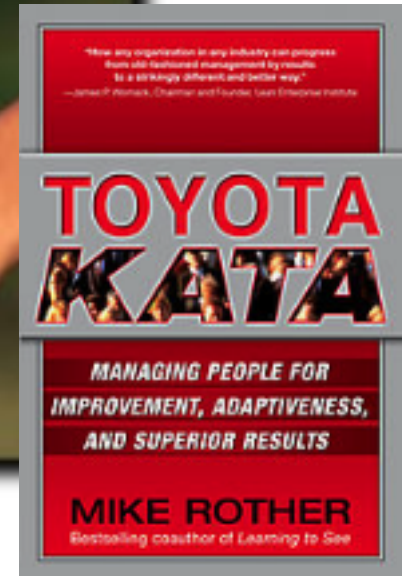
❑ Helping you communicate.

A main purpose of Value Stream Mapping is to support an ongoing process of improvement, adaptation and innovation by providing a sense of direction. That's what this SlideShare is about.

YOU NEED A SENSE OF DIRECTION,
AND AN EFFECTIVE WAY OF MOVING THERE
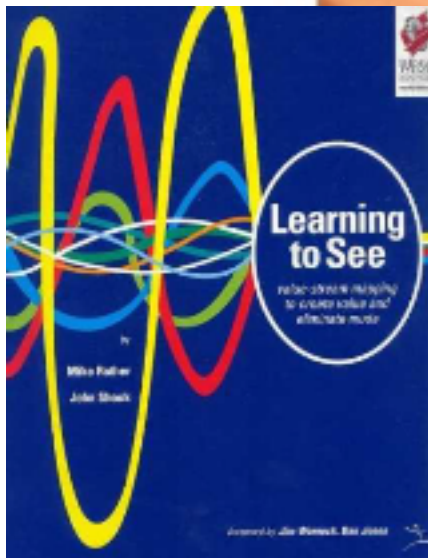
The system-level view, through Value Stream Mapping

Working scientifically, with the Improvement Kata

EFFECTIVE USE OF VALUE STREAM MAPPING

Value stream mapping is not an end in itself. It's something that assists in the process of improvement.

The purpose of this SlideShare is to encourage you to use Value Stream Mapping (VSM) as a tool and practice *within* a systematic, scientific improvement pattern like the Improvement Kata / Coaching Kata.

In short, you use the future-state map to focus and aim individual improvement efforts toward a common breakthrough challenge.

THE FIRST STEP OF THE IK PATTERN IS TO HAVE AN OVERARCHING CHALLENGE

Having an overarching challenge is important; so that individual target conditions are seen as meaningful. It's difficult for us to stay engaged with something that doesn't have a purpose.
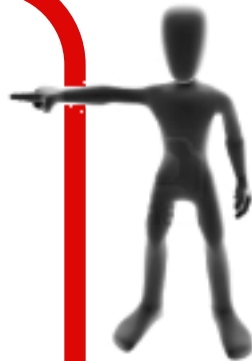
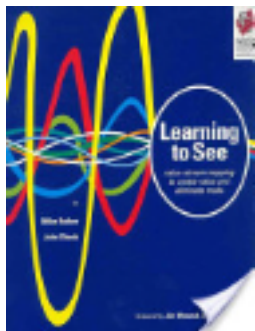**Current Condition** — Obstacles — **Target Condition** — **Challenge** — **Vision**
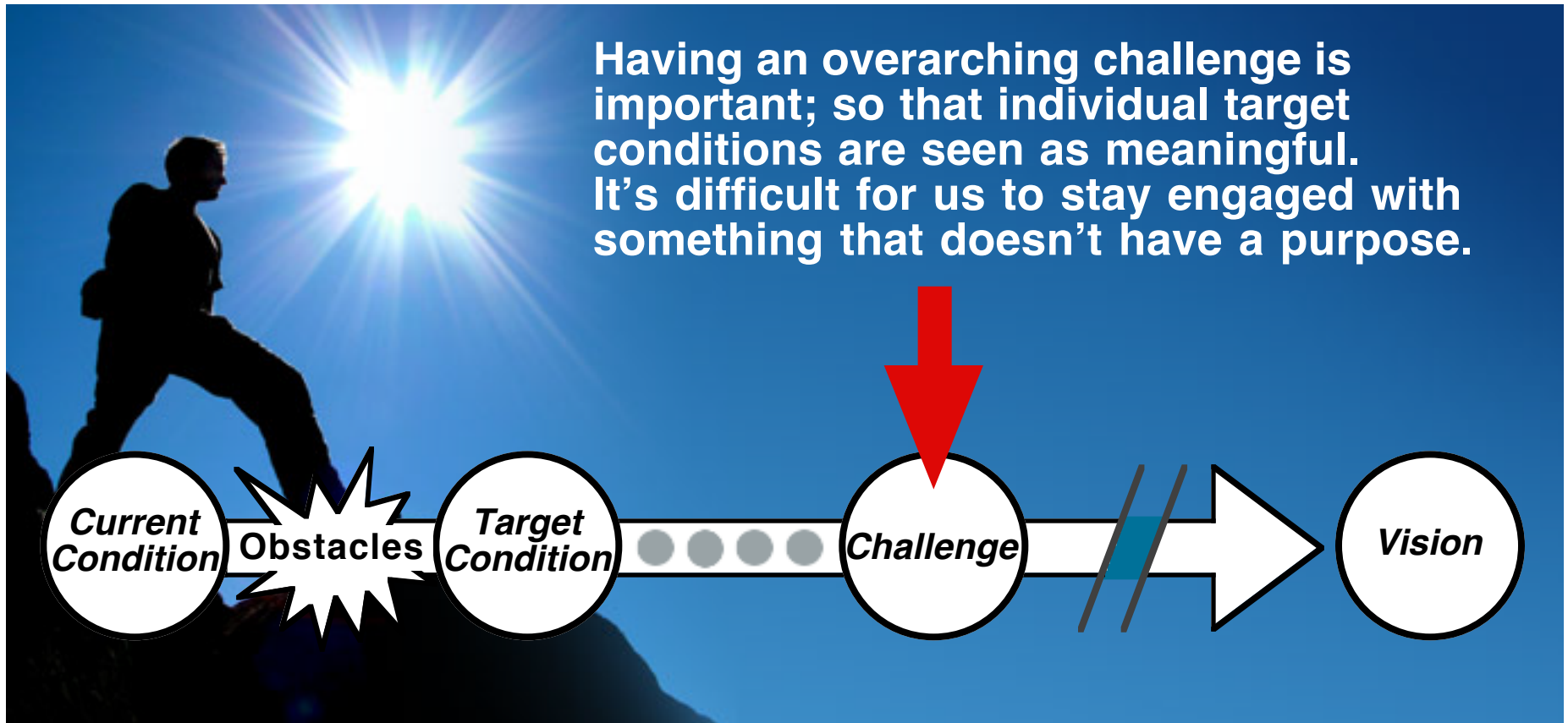
"When people see themselves as components in a system [and] work in cooperation to achieve a shared aim, they feel that their efforts hold meaning. They experience interest and challenge and joy in the work."

~ W. Edwards Deming, The New Economics, page 128

ONE WAY TO ESTABLISH CHALLENGE IS WITH FUTURE-STATE VALUE STREAM MAPPING

With or without directional guidance from an organization's leader level, Future-State Mapping at the product-family level can help provide a necessary sense of direction and challenge.

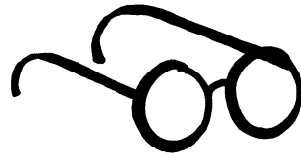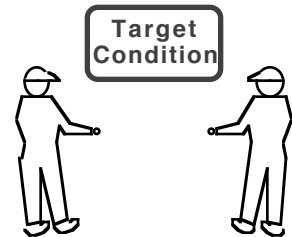**A future-state Value Stream map is sometimes even called a *Challenge Map*.**
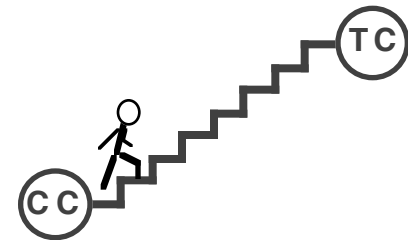
Understand the Direction

Grasp the Current Condition

Establish the Next Target Condition

Target Condition

Iterate Toward the Target Condition

TC

CC

THE ROLE OF VALUE STREAM MAPPING

Value Stream Mapping is a tool for analyzing & designing the flow across *multiple* processes

What is the the direction in which process teams should improve? The future-state map 'connects the dots' of individual improvement efforts by providing a common challenge to strive for. This aligns your process-improvement efforts

Process Team A

Process Team B

Process Team C

Target Condition

Next Target Condition

Target Condition

Next Target Condition

Target Condition

Next Target Condition

Challenge

Vision

Typically a 6-month to 3-year timeframe

Learning to See

This is a main intended role for VSM!
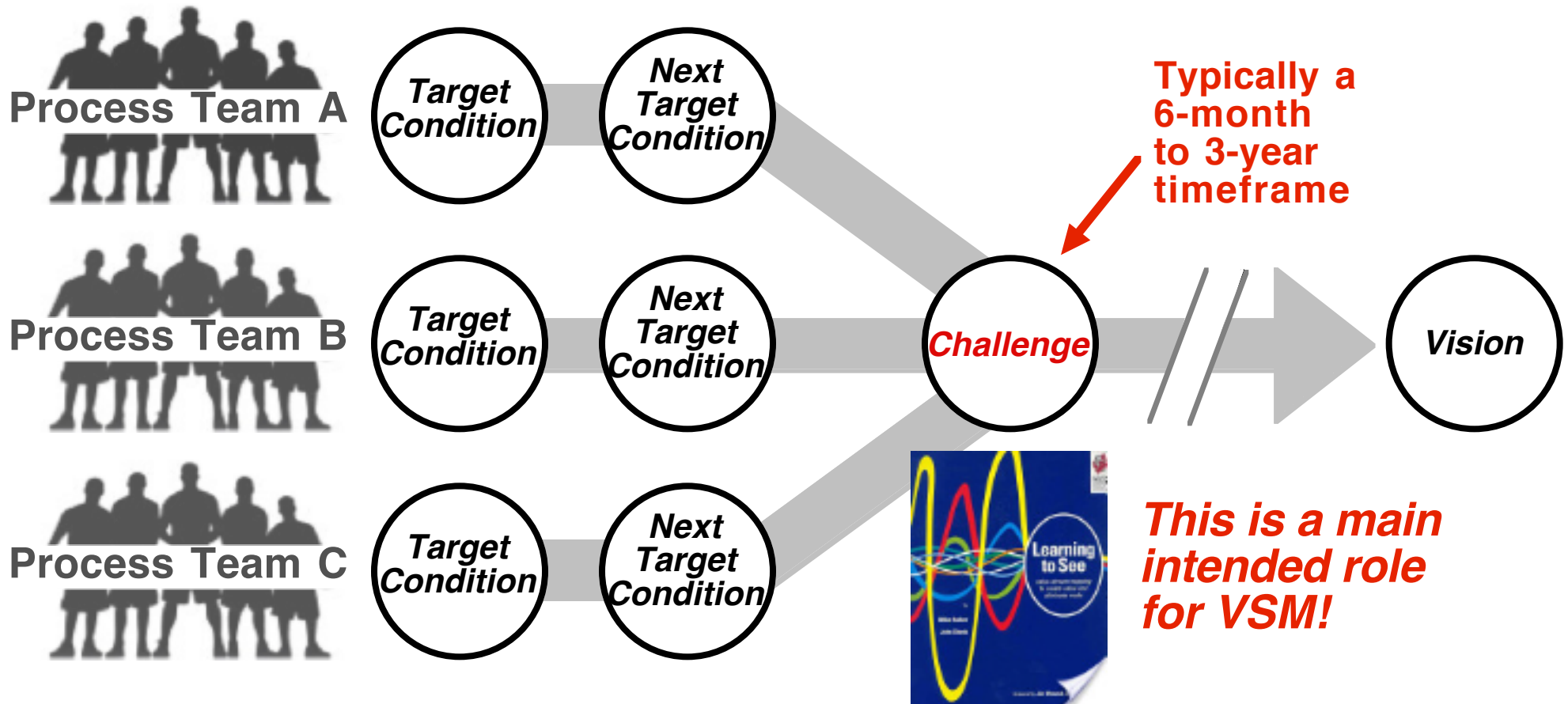
WHERE VALUE STREAM MAPPING FITS IN

The 4 Steps of the Improvement Kata

	(1) Understand the Direction or Challenge	(2) Grasp the Current Condition	(3) Establish the Next Target Condition	(4) Iterate Toward the Target Condition
Organization Level	*Organization's vision and strategic objectives*			
Value Stream Level		Current-State Value Stream Mapping	Future-State Value Stream Mapping	
Value Stream Loop Level		Current-State Loop Mapping	Future-State Loop Mapping	
Process Level				

———— **PLANNING PHASE** ———— **EXECUTING**

Diagram by Emiel Van Est

HOW IT WORKS

The diagram on the previous page & below depicts how the four steps of the Improvement Kata pattern are utilized at each level of an organization. The diagonal arrows show how the *Target Condition* at one level becomes the *Direction or Challenge* for the next level down.

At the value-stream level, <u>current-state value stream mapping</u> is used for the Kata step of grasping the current condition, and <u>future-state mapping</u> is used for the Kata step of establishing the target condition.
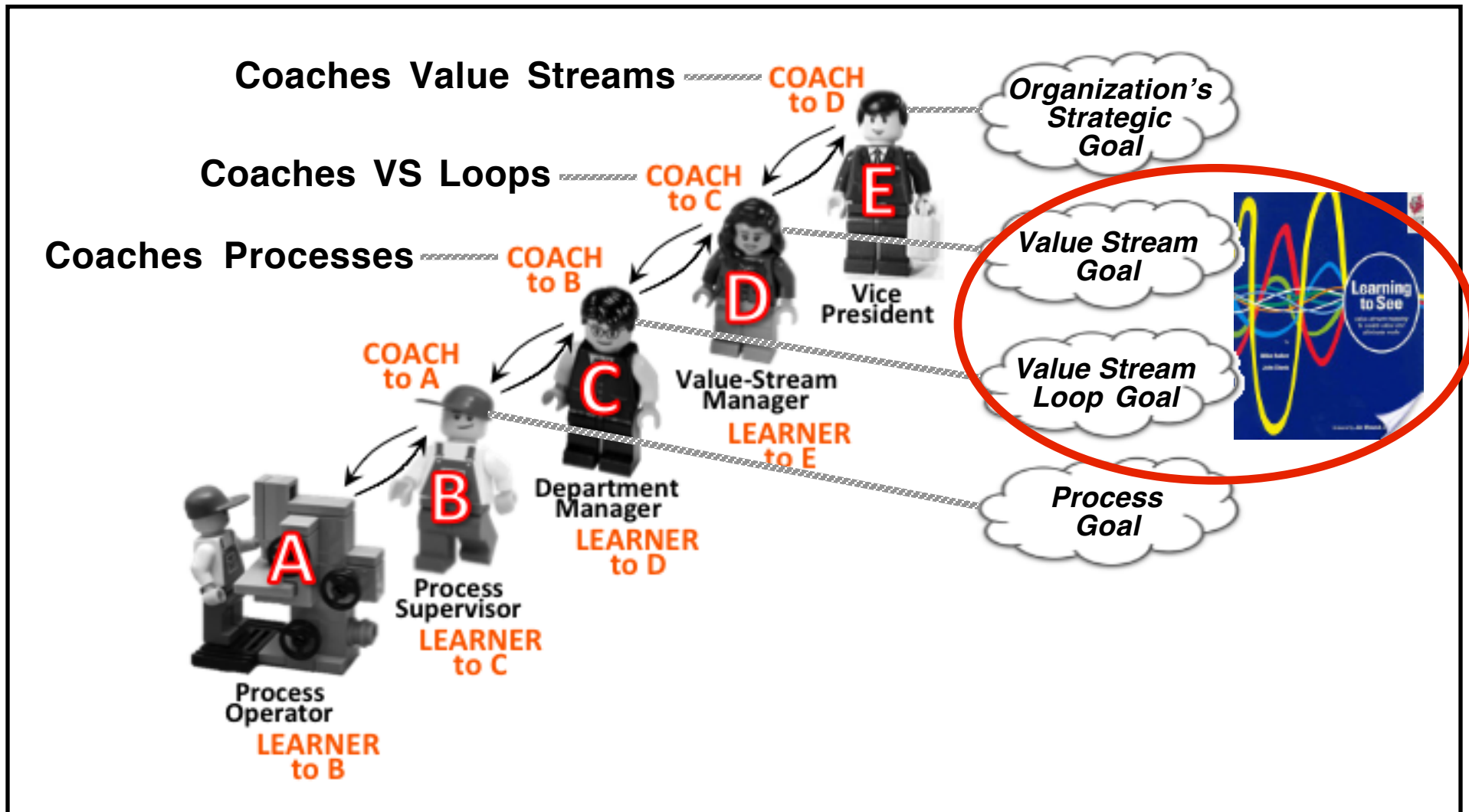
VSM is then often also used to assess and design value stream loops.

The 4 Steps of the Improvement Kata
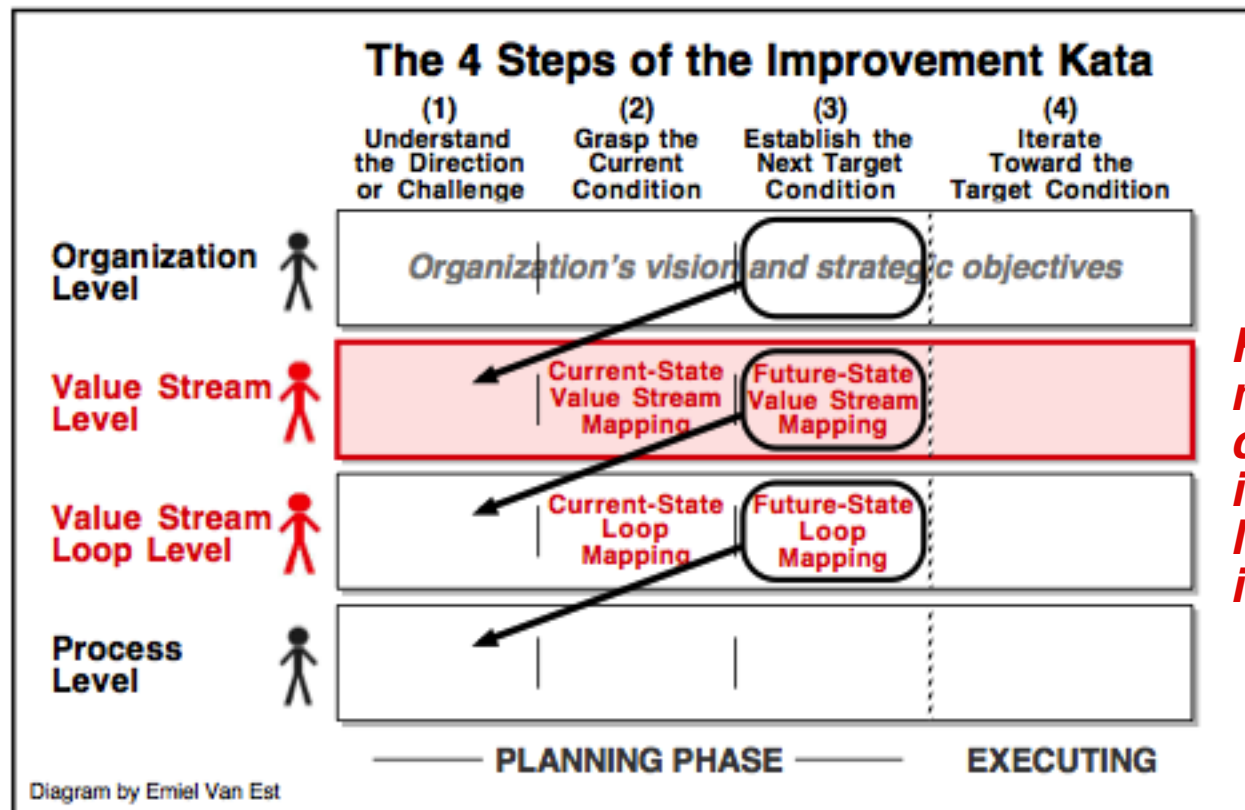
Future-state value stream maps define the direction / challenge for the improvement process at the loops and work processes inside that value stream

Diagram by Emiel Van Est

COACHING TO AN OVERARCHING CHALLENGE
Finally... a practical way to operationalize strategy deployment!

Coaches Value Streams ···· COACH to D

Coaches VS Loops ···· COACH to C

Coaches Processes ···· COACH to B

COACH to A

Organization's Strategic Goal

Value Stream Goal

Value Stream Loop Goal

Process Goal

E Vice President

D Value-Stream Manager
LEARNER to E

C Department Manager
LEARNER to D

B Process Supervisor
LEARNER to C

A Process Operator
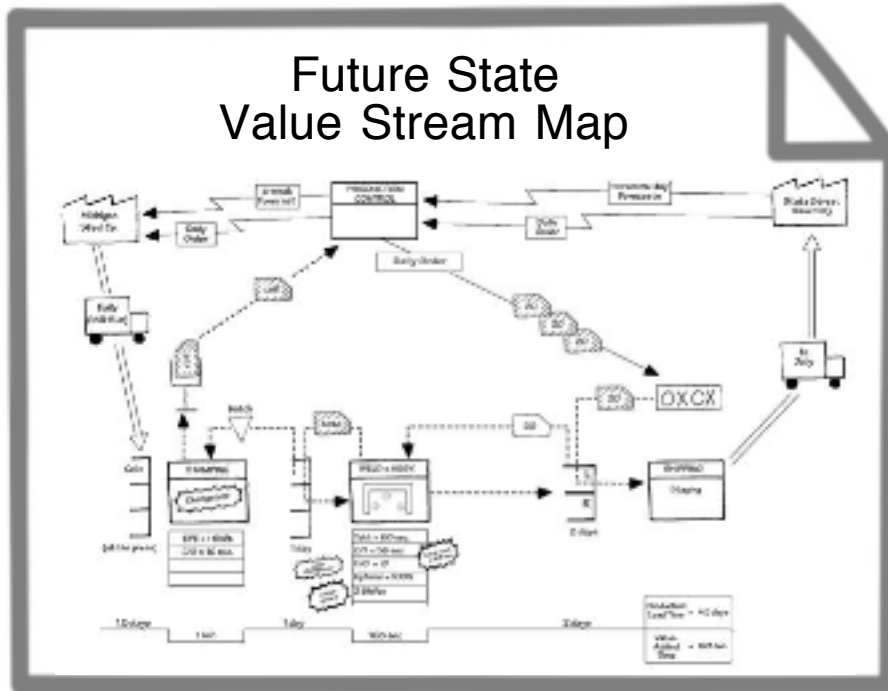LEARNER to B

Learning to See

SUMMARIZE THE FUTURE-STATE GOAL WITH A *CHALLENGE STATEMENT*

This is a "theme"... a compact description of what this value stream is aiming for overall

Future-State Value Stream Design	**+**	Value Stream Challenge Statement

Future State Value Stream Map

Some actual examples:

"Build to truck, kitchen at a time"
Build one customer kitchen at a time and put it right on the truck.

"Same day, next day"
Assemble the day ordered, and ship the next day.

MAPPING TIP:
DON'T MAKE THIS MISTAKE

A common VSM error

Don't value stream map the current state, highlight problems with lightning bursts and then just go after those issues. That's not an effective way to improve. It's too random.

The main purpose of drawing a current state value stream map is not to see problems, wastes or improvement opportunities for quick resolution, but to provide the basis for designing a future state.
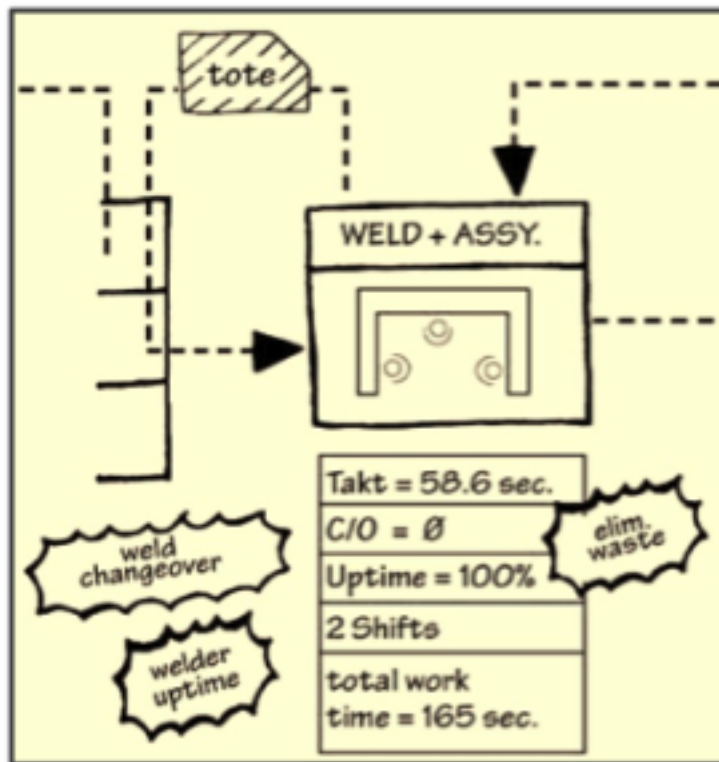
TOYOTA KATA

LIGHTNING BURSTS DON'T BELONG ON THE CURRENT STATE VALUE STREAM MAP

You haven't yet defined *where you want to go*

Once you've drawn the current state map, the next step is to design a future value stream that answers the question:

"How do we want this value stream to be functioning (to flow) 1-3 years in the future?"
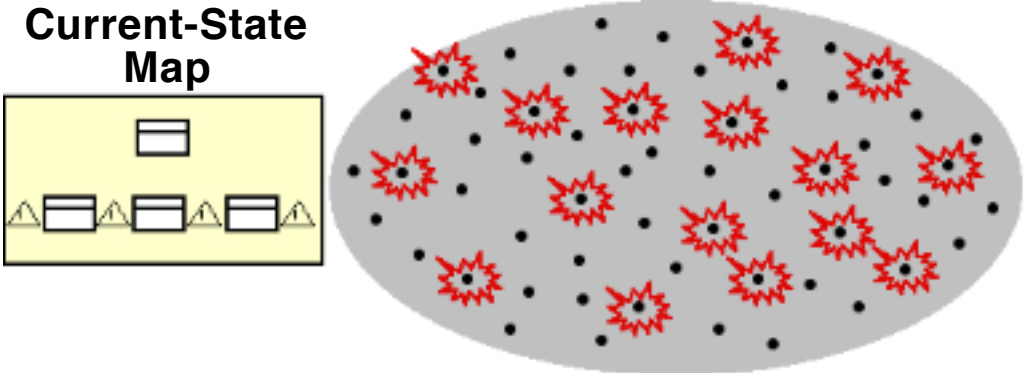

Then you can draw lightning bursts onto the <u>future-state map</u> to indicate construction sites you think will be necessary in order to achieve your future-state flow design.

Here, for example, are the kaizen bursts from the future-state map in *Learning to See*, page 78.
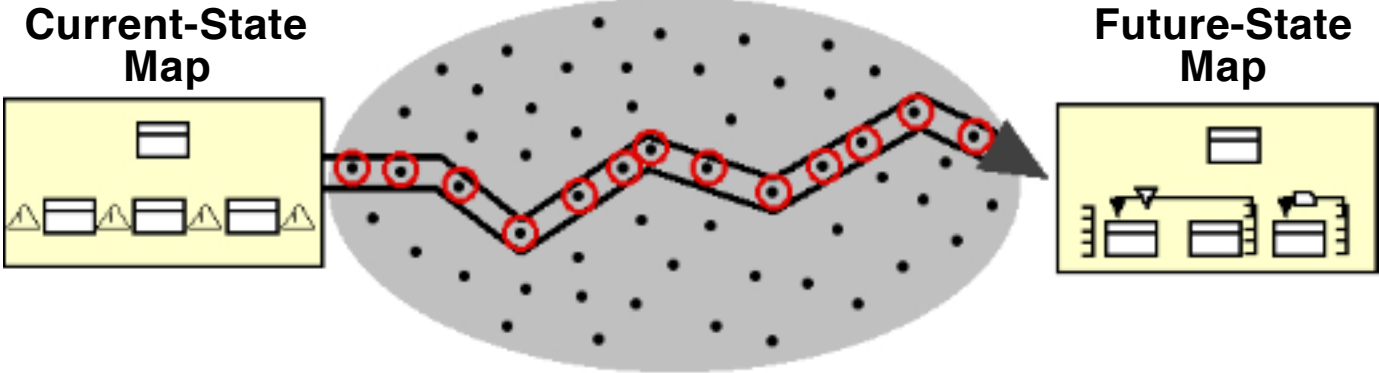
WORK IN A GOAL-DIRECTED MANNER

Don't Do This:

Current-State Map

Chasing after problems / wastes / opportunities

Do This:

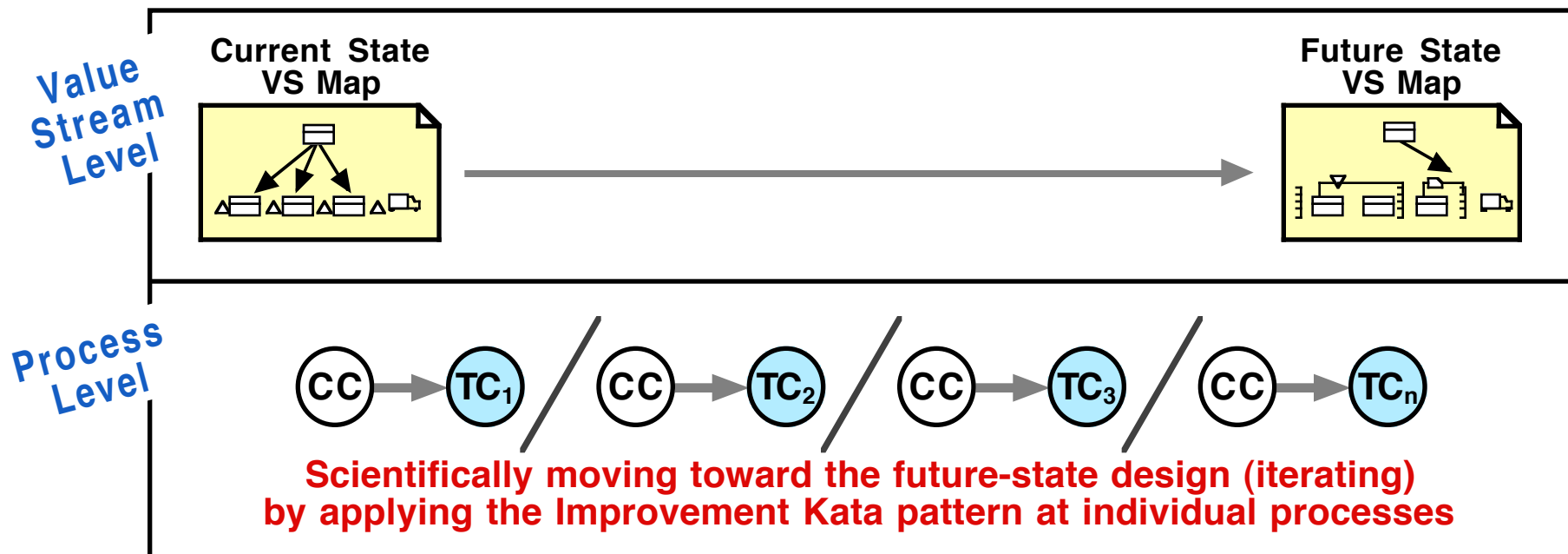**Current-State Map**

Future-State Map

TOYOTA KATA

MOVE TOWARD YOUR FUTURE STATE DESIGN SYSTEMATICALLY & SCIENTIFICALLY

Work iteratively, with the scientific Improvement Kata pattern

Once you've drawn the future-state value-stream map, work toward that objective by utilizing the Improvement Kata pattern at each level in the value stream.

CC = Current Condition, **TC** = Successive Target Conditions

AS SUGGESTED IN *LEARNING TO SEE*, BREAK YOUR FUTURE-STATE VALUE STREAM MAP INTO LOOPS
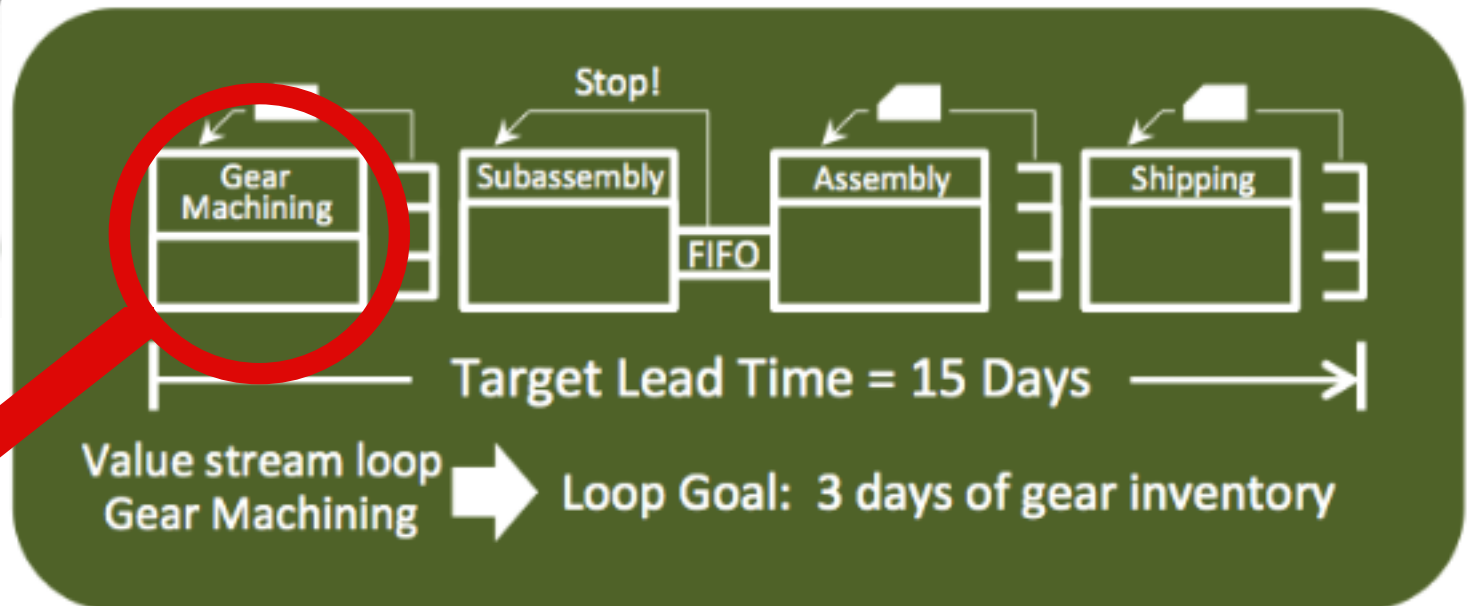
The future-state characteristics for the loops of a value stream provide challenge and coordination for establishing target conditions at the individual work processes inside those loops. The future-state design for a value stream loop is a *hoshin* for improvement at the processes in that loop.

See p.86 in *Learning to See*

A VS loop often corresponds to a "Department" in an organization

What do the processes in this loop need to work on, to help achieve the VS loop goal?

Stop!

Gear Machining — Subassembly — FIFO — Assembly — Shipping

Target Lead Time = 15 Days

Value stream loop Gear Machining → Loop Goal: 3 days of gear inventory

DEAR VALUE STREAM MAPPERS...

We invite you to use this effective 'connected' approach to Value Stream Mapping (integrating VSM with the Improvement Kata / Coaching Kata patterns) and to share what you learn on SlideShare, YouTube, in articles and so on.