Operational Excellence Indicators as response to cost pressures at Takeda

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Takeda has Grown From a Company Focused on Japan and the United States...
...to a Global Player with a Balanced Presence in Japan, USA, Europe, Emerging Markets
Takeda has Become the 12th Largest Pharmaceutical Company Globally

- Around 29,000 employees worldwide
- 15th largest pharmaceutical company in USA
- 14th largest pharmaceutical company in BRIC countries
- ¥1,509bn global sales in FY2011
- 18th largest pharmaceutical company in Europe
- #1 pharmaceutical company in Japan
- 70 approx no. of countries with Takeda market presence
- 20+ products from own pipeline planned to be launched in the next 5 years

5 OpEx Indicators as response to cost pressures at Takeda
Operational Excellence Organisation CCO:

Central OPEX team Master Blackbelts sit on Regional Management teams

- Liquids region
- Solids region
- LATAM region
- Functions E M & others

Blackbelts at site sit on Management teams

Blackbelts co-ordinate with Greenbelts & Yellowbelts around active project execution

Coaching, training and mentoring

Blueprints

Repository

6 OpEx indicators as response to cost pressures at Takeda
Regulatory Pressures and Cost Pressures in the Pharmaceutical Industry

Background

- On August 2012, CFCD Japan (Takeda corporate finance) has kicked off a Global Capital Management project that covers the worldwide Takeda organization in full and requires an Extended Value Stream Mapping approach.
"Regulatory Pressures and Cost Pressures in the Pharmaceutical Industry"
Business Assessment Process

• The BAP is a universal tool
• Establishes Ownership for management & down to the process level
• Provides Gap Analysis from Current to Future State
• The BAP Generates and Prioritizes an action plan
  – Project Portfolio
    • OpEx Projects
      – Kaizen Events
      – BB Projects
      – GB Projects
    • Other Projects
  – Identifies local team initiatives
  – Sets a time line for improvements
• Establishes true process understanding

BAP is fast, specific and ties directly linked to the annual targets and identifies the who, what and when for process improvement

9 OpEx Indicators as response to cost pressures at Takeda
BAP Road Map

Strategy & Target
Feedback

Project Prioritization

Project Contract

Start

Organization Alignment
(Critical Y)

PQ Analysis &
Segmentation

Dashboard

Project Resourcing &
Implementation DMAIC
Projects & Kaizen Events

Identify Key Value Streams

Future State Analysis

Map the Current State

Constraint Analysis

Current State Mapping

Design the Future State

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# BAP Playbook

## Phase I
(Alignment)
- 3-4 Month Prior to BAP

### Organizational Alignment & Identify Key Value Streams
- Strategy
- Annual Targets
- VOC
- Team ID
- Critical Y
- ROIC
- CTQ
- KPI’s

## Phase II
(Plan & Prep)
- 1 -3 month Prior to BAP

### Data Collection
- Resources
- Logistics
- Product Lines
- Takt Time
- Team Assign.
- Data Checklist
- Data, Data, Data

### Current State
- Maturity Assessment
- Current State VSM
- Spaghetti Diagram
- C&E Matrix, FMEA
- Defect Data
- Cycle Time Analysis
- Constraint Analysis

## Phase III
(BAP)
- Day 1 - 2

### Future State
- Current EVSM
- Future State EVSM
- Gap Analysis
- Validation to Annual Targets
- Project Identification
- Project Priority

## Phase IV
(Post BAP)
- 30-60-90 Day Plan

### Project Resourcing & Implementation
- Resource Assignments
- 30-60-90 Day Plan
- Project Clusters
  - BB Projects
  - GB Projects
  - Kaizen Events
- Future State EVSM
- Future State
  - Throughput Time
  - Cycle Time
  - Inventory €
- Resource Plan

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**Tool Selection/Usage May Vary From One Assessment to Another**

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Identification of Key Value Streams

**PQ Analysis** – initially narrow down opportunities based on volume, value

**Demand Segmentation** – narrow down further and segment based on volume, variability, inventory level, quality,…
Extended Value Stream Mapping
Gap Analysis & Waste Identification

Verfügbarkeit

Leistung

Qualitätskennziffer

Verfügbarkeit zellipsis\% Leistung zellipsis\% Qualitätskennziffer zellipsis\%

Leistung

SOLL-Fertigungszeit 8 h für 5 Chargen

Theoretisch max. ... Tabl./h

SOLL-Leistung ..... Tabl./h

IST-Leistung zellipsis.. Tabl./h

1000 Tabl./min

500,00

1000 Tabl./min

2 Kampagnen

CT  =  772 min

Mixer

Volumen Input zellipsis...tabl Volumen Output zellipsis...tabl

Volumen Input zellipsis...Tabl Volumen Output zellipsis...Tabl

Kundennachfrage

Venezuela

max. 5 Chargen zellipsis Tage

... CT  =  600 min

Verfügbarkeit

SOLL-Rüstzeit 4h

OEE=VxLxQ helipsis....%

1000001 Produkt A01 5% 2% 1% 1% 2%

1000002 Produkt A02 6% 25% 11% 20% 30% 6% 8% 16% 1000003 Produkt A03 20% 8% 10%

10 Chargen

Verfügbare Arbeitszeit

2500,00

Verfügbarkeit von zellipsis %

Leistung

SOLL-Rüstzeit 11h

Verfügbarkeit von zellipsis %

Qualität

Overall Equipment Efficiency

1000 Tabl./min

2 Kampagnen

CT  =  1152 min

SOLL-Fertigungszeit 5 h für 1 Charge

Wartezeit

1,5 h Rüsten (SOLL)

Verfügbarkeit von zellipsis %

Leistung

Daten von allen Produkten

SOLL-Rüstzeit 2h; IST-Rüstzeit 1.25 h; zwischen den Chargen

Verfügbarkeit von zellipsis %

Leistung

CT  =  510 min

Geplante Leistung ... % IST/Leistung helipsis%

Verfügbarkeit von zellipsis %

Leistung

31746 Tabl./h

CTT= 529 tabl./min

21T x 8h = 168 h

Pausen 21T x 0,5h = 10,5 h

Rüsten (zellipsis %) = ... h

Stillstand = ... h

Frei (ca. ..%) = zellipsis h

Summe Verfügbarkeit = ... h/m

Verfügbarkeit von zellipsis %

Leistung

1 Tonne

CTT = 529 Tabl./min

1 Tabl./min

CT = 1282 Tabl./min

1 Tonne

Qualität

5 Chargen 14 Tage

Qualität

7.5 h/Schicht/MA (exkl. Pausen)

IST-Fertigungszeit 5.25 h

Jan_08 Feb_08 Mrz_08 Apr_08 May_08 Jun_08 Jul_08 Dez_08 Aug_08 Sep_08 Okt_08 Nov_08

Tabl./min

1

CT = 567000 sek/Monat

0,00

0,00

567000 sek/Monat

Wiegen

max. 5 Chargen zellipsis Tage

Warten

3837000 sek/Monat

Konfektionierung/2 Blister

8 h/Tag

Dieckmann

Wartezeit

2 7.5 h/Schicht/MA (exkl. Pausen)

Kundenlieferant

Kunden

Ungenauigkeiten im Rolling Forecast zellipsis Inherent WIP

Quick Reactions of Takeda 13

OpEx Indicators as response to cost pressures at Takeda

Takeda Pharmaceuticals International

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OEE Standardization

• Blueprints:
  – OEE & TEEP available
  – Next blueprint under development

The two main KPIs explaining the efficiency are TEEP & OEE

• Best Practice Sharing / Training
GAMED – How does it work?

Vizualisation

- Server PC
- Client PCs
- Global Functions

Integration

Client/Server

Machine PC

- Production signal from PLC or sensor (24V)

Machine PC

- Packaging
- Material flow

Tabletting

- Buffer

Logon product A (Terminal or PLC)

- High
- Low

Product A

- Setting-up
- Production
- Downtime
- Production

Time

- Production signal
- Machine status

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Takeda Pharmaceuticals International
Historical Background

Currently covering production lines / machines like
- Filling/packaging lines
- Tabletting lines
- Inspection lines
- BFS machines
- Coating and granulation equipment in progress

Status January 2013
Request for 59 new lines within Europe

Takeda Pharmaceuticals International
“coming from theory to practice”

“It’s a kind of Magic”

17 OpEx Indicators as response to cost pressures at Takeda

Takeda Pharmaceuticals International
Thank you very much for your attention!