

A3 PLAN

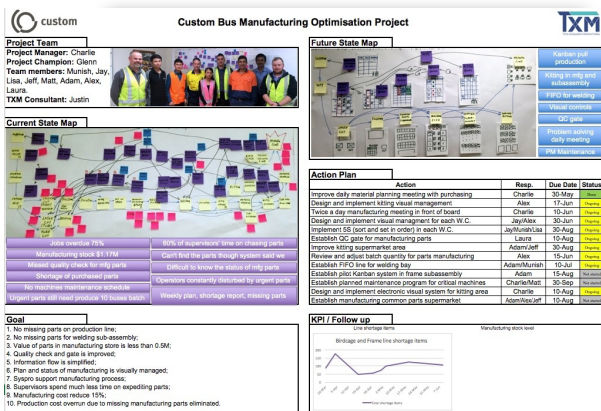


CONTENTS

- Introduction of A3
- A3 tips
- A3 templates and examples



WHAT IS A3?

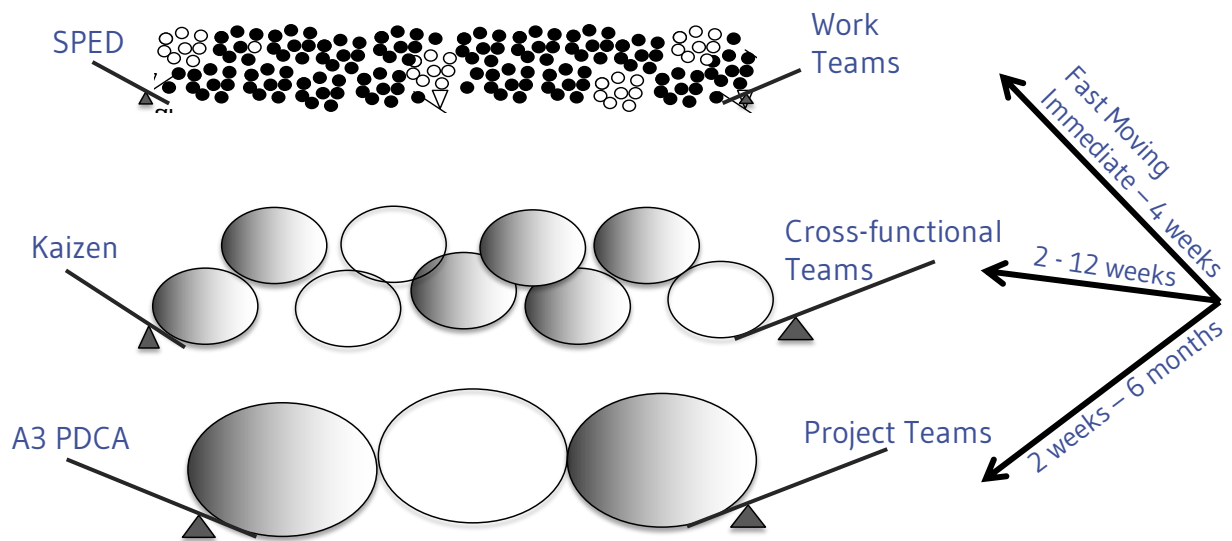


- Methodology based on Plan-Do-Check-Act (PDCA) –The Deming Cycle;
- A story telling approach to planning;
- At Toyota it is the standard format for problem-solving, proposals, plans and status reviews;
- We call the report “A3” due to the internationally recognized size of the paper(11x17) and has the right level of detail to understand and communicate.

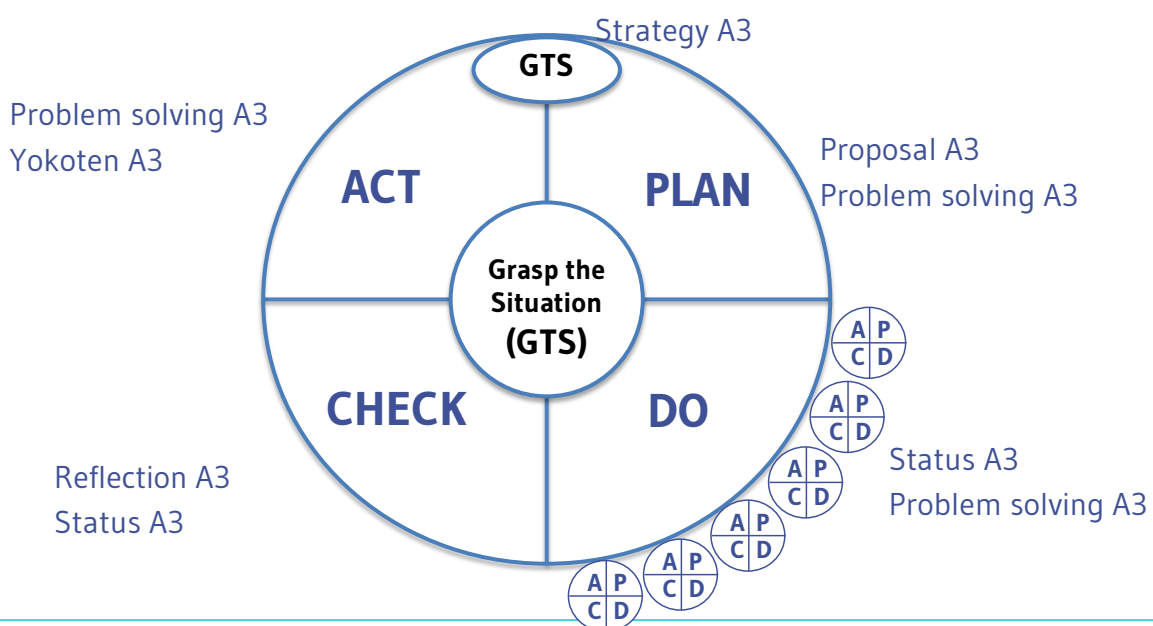
WHY USE AN A3 PLAN?

- A3 thinking is the antidote to common communication
 - No standard
 - PowerPoint junk
- It encourages the PDCA cycle, develops thinking problem solvers
- It leads to an effective action plan with solutions based on facts and data.
- Provides organizational alignment through simple, visual communication
- “Force yourself to filter and refine your thoughts to fit on one sheet of paper in such a way that management has all of their (major) questions answered by reading a One Page Plan” - the essence of lean.

WHERE TO USE A3



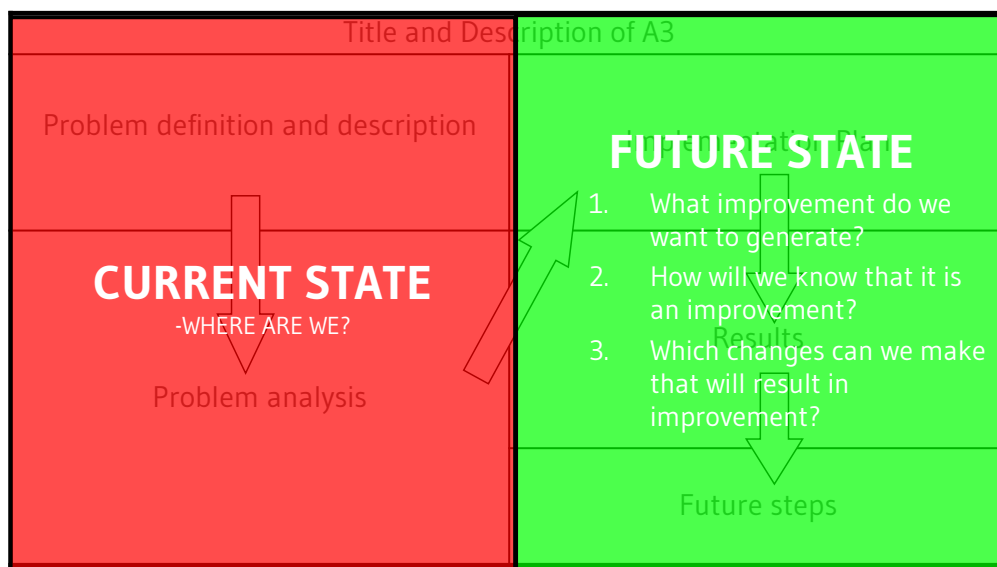
PDCA CYCLE OF PROBLEM SOLVING



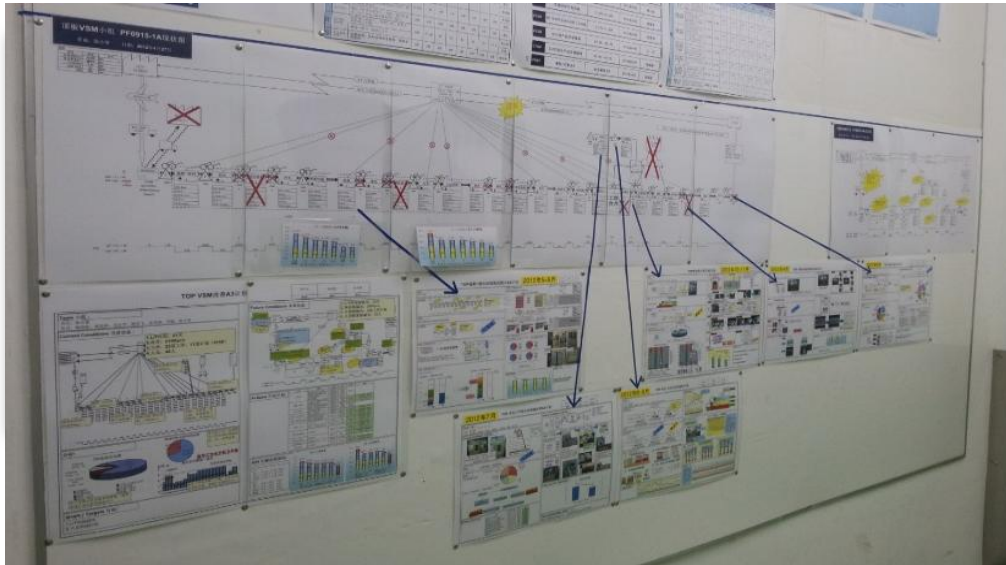
THE A3 THINKING STEPS

- What is the problem?
- Who owns the problem?
- What is the root cause of the problem?
- What are some possible countermeasures?
- How will you choose which countermeasure to propose?
- How will you get agreement among everyone concerned?
- What is your implementation plan? What timetable?
- How will you know if your countermeasure works?
- What follow-up issues can you anticipate?
- How will ensure learning and continuous improvement?

A3 STRUCTURE – HOW TO DO ONE?



A3 CONNECT WITH VSM



WHAT MAKES A GOOD A3?

- It tells a story
- It contains objective facts, data
- It “resolves” a problem
- But being technically “right” is only half the battle...
- Engages and aligns the organization
- What really makes an A3 a “good one” isn’t the specific collection of facts and data that tell a perfect problem-solve.
- A good A3 is a reflection of the dialogue that created it.

A3 REPORT WRITING TIPS

1. Plan time to grasp the ENTIRE situation
 - Consider several information sources
 - Discuss with others involved in the report– “Nemawashi”
 - Base story on facts, not opinions
 - Consider the long-term effects (Impact)
2. Decide what kind of story you need to tell. Know your audience.
3. Develop the story based on company values, philosophy, culture.
4. Make your story flow in a logical sequence. Include only the points needed to tell the story (remove the “waste”)
5. Save words – use graphs and visuals to tell your story (“International Language”). Clarify the accuracy of data used.
6. Make every word count – be specific, avoid “heavy” or specialized language.
7. Consider the effect of each box on the page in helping you tell the story.

A3 TEMPLATE

Project Investigation Report for: _____																																																																						
Team <div style="border: 1px solid black; height: 20px; width: 100%;"></div>				Countermeasure <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Category</th> <th>Action Plan</th> <th>Target</th> <th>Prep.</th> <th>Start Date</th> <th>Due Date</th> <th>Status</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				Category	Action Plan	Target	Prep.	Start Date	Due Date	Status																																																								
Category	Action Plan	Target	Prep.	Start Date	Due Date	Status																																																																
Current State What are the main problems your business is encountering now? <div style="border: 1px solid black; height: 40px; width: 100%;"></div>				Justification <div style="border: 1px solid black; height: 40px; width: 100%;"></div>																																																																		
Future state What is your strategic vision for your business? Describe your future business. <div style="border: 1px solid black; height: 40px; width: 100%;"></div>				<div style="border: 1px solid black; height: 20px; width: 100%;"></div>																																																																		
Analysis <div style="border: 1px solid black; height: 40px; width: 100%;"></div>				KPI Monitoring <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Measure</th> <th>Current State</th> <th>Future State</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>				Measure	Current State	Future State																																																												
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<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				Next Steps <div style="border: 1px solid black; height: 20px; width: 100%;"></div>																																																																		

IMPACT OF OUR OPERATIONAL IMPROVEMENT INITIATIVES

A major part of implementing our initiatives is to quantify the impact up front.

If we can outline what our plans are and the expected outcomes it becomes an easy equation to justify any future expenses.

As a result, we need to establish our Return on Investment.

RETURN ON INVESTMENT EXAMPLE

Example: Project was developed to reduce overall costs in manufacturing.

We have a processing line, where the surface finish of our product is currently being completed manually. The current operation takes 2 Operators to complete the process.

The engineering team has identified a polishing machine that will eliminate the need for two operators to complete the process reducing the operation to one Operator.

In the study, the following parameters were outlined;

RETURN ON INVESTMENT

Costs to Implement the Project;

- Cost of Machine purchase - \$45,000
- Commissioning Costs - \$7,500
- Loss of Production - \$0 (No Impact to current production)
- Training of current employees - \$240

Total Costs = \$52,740

Total Savings

- Labor Saving per annum - \$35,000 (1 operator)
- Expected reduction in Quality Returns Costs - \$3000 per annum

Total Savings = \$38,000

Note: The expected life of the product is 3 Years

RETURN ON INVESTMENT

$$\text{Return on Investment} = \frac{\text{Benefit of the Investment}}{\text{Cost of the Investment}}$$

$$\text{Return on Investment} = \frac{\$38,000 \text{ per annum} \times 3 \text{ Years}}{\$52,740}$$

$$\text{Return on Investment} = 216\% \text{ Return over 3 Years}$$

Note: Another way to review this is to calculate the payback period i.e. $\$52,740 / \$38,000 = 1.4$ years

Problem Solving Worksheet

Date: _____
THEME _____

PROBLEM SITUATION

Desired Standard _____

Current Situation _____

Discrepancy _____

Extent _____

Impact _____

Team: _____

COUNTERMEASURE(S)

Containment: _____

Long term System Solution: _____

Why Recommended? _____

GOAL _____

Do What _____
To What _____
How Much _____
By When _____

IMPLEMENTATION

What	Who	When	Where	Status

PREVENT RECCURRENCE

What	Who	When	Where	Status

CAUSE ANALYSIS

Potential Causes; How Checked? Result?

Most Likely Cause(s) _____

Problem Statement:

Why?

Why?

Why?

Why?

Why?

Root Cause: _____

FOLLOW-UP

Check method: _____

Check frequency: _____

Who will check? _____

Target
Actual

Recommended Actions: _____

The diagram illustrates the relationship between Proposal Stories and Reporting Stories. On the left, a blue oval labeled "PROPOSAL STORY" is associated with the label "PROPOSAL STORIES" below it. Above this oval is a dashed blue oval labeled "Problem Consciousness". To the right, a large black oval labeled "REPORTING STORIES" below it contains three smaller blue ovals: "PROBLEM SOLVING STORY", "STATUS STORY", and "INFO STORY". A jagged line separates the "PROPOSAL STORY" from the "REPORTING STORIES" oval. Above the "REPORTING STORIES" oval is the label "Current Situation".

THE A3 “PROPOSAL STORY” APPLICATION

Tell a proposal story when:

- There is no plan or goal, but there is a **company need** which should be communicated.
- A plan or goal exists, but a **value or policy has changed**, or a new plan needs to be made and communicated.
- A **new direction** or policy is made and a goal/plan must be created.

PROPOSAL STORY

THEME

I - INTRODUCTION

II - PROPOSAL


III - PLAN

IV - UNRESOLVED ISSUES

V - ACTION PLAN (Schedule)


AUTHOR: _____ DATE: _____

A3 EXAMPLES - PROPOSAL STORY



BRANACH
SAFETY. OUR WAY OF LIFE.

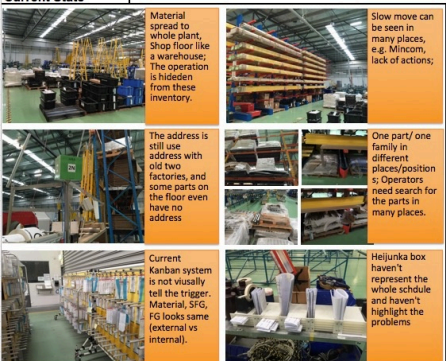
Theme: Branach Material Flow Improvement



A3 Designed by TXM

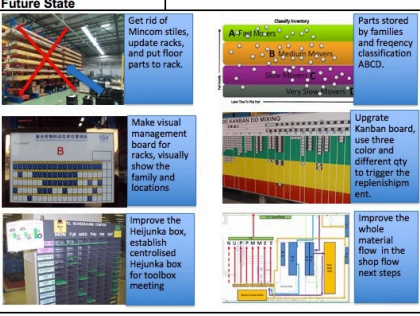
Team
Matt A, David, Justin

Current State



Target
Create a visual material flow, centralise parts and materials, and make Kanban system more efficient and visually accountable.

Future State



Action Plan

Action Plan	Resp.	Due Date	Status
Sort Mincom site	Matt A	28-Jun	Ongoing
Make racking plan to fit the floor inventory and modify it	David	15-Jul	Plan
Investigate current material frequency, make storage plan	David	15-Jul	Plan
Plan home for families and how they move together	David, Matt A	15-Jul	Plan
Move materials to new areas	David	30-Jul	Plan
Update Kanban cards, new address, difference between external vs internal	David	30-Jul	Plan
Establish visual management for material locations	David, Justin	15-Aug	Plan
Improve Kanban board/system	David, Justin	15-Aug	Plan
Improve the Heijunka box and establish central Heijunka board	Matt, Justin	30-Aug	Plan
Improve the whole material flow	Matt A, Justin		Plan

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A3 EXAMPLES - PROPOSAL STORY



custom

Custom Bus Manufacturing Optimisation Project



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Project Team
Project Manager: Charlie
Project Champion: Glenn
Team members: Munish, Jay, Lisa, Jeff, Matt, Adam, Alex, Laura.
TXM Consultant: Justin



Current State Map



Goal

1. No missing parts on production line;
2. No missing parts for welding sub-assembly;
3. Value of parts in manufacturing store is less than 0.5M;
4. Quality check and gate is improved;
5. Information flow is simplified;
6. Plan and status of manufacturing is visually managed;
7. Syspro support manufacturing process;
8. Supervisors spend much less time on expediting parts;
9. Manufacturing cost reduce 15%;
10. Production cost overrun due to missing manufacturing parts eliminated.

Future State Map



Action Plan

Action	Resp.	Due Date	Status
Improve daily material planning meeting with purchasing	Charlie	30-May	Done
Design and implement kitting visual management	Alex	17-Jun	On track
Twice a day manufacturing meeting in front of board	Charlie	10-Jun	On track
Design and implement visual management for each W.C.	Jay/Alex	30-Jun	On track
Implement SS (sort and set in order) in each W.C.	Jay/Munish/Lisa	30-Aug	On track
Establish QC gate for manufacturing parts	Laura	10-Aug	On track
Improve kitting supermarket area	Adam/Jeff	30-Aug	On track
Review and adjust batch quantity for parts manufacturing	Alex	15-Jun	On track
Establish FIFO line for welding bay	Adam/Munish	10-Jul	On track
Establish pilot Kanban system in frame subassembly	Adam	15-Aug	Not started
Establish planned maintenance program for critical machines	Charlie/Matt	30-Sep	Not started
Design and implement electronic visual system for kitting area	Charlie	10-Aug	On track
Establish manufacturing common parts supermarket	Adam/Alex/Jeff	10-Aug	Not started

KPI / Follow up



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A3 EXAMPLES - PROPOSAL STORY

A3 Plan:
ETS DEVELOPMENT PROCESS

THEME: DEFINE PROCESS

Updated: 3/11/16
 Status:

Sponsor: Chris

I - CURRENT STATE

Click to add text

PROGRESS IS GOOD!
 LISTEN TO THEIR KNOWLEDGE
 THEY ARE
 WISE! - REACTIVE.

CANT PEOPLE
 GET THE MESSAGE
 THAT "YOU NEED
 TO BE REACTIVE!"

II - FUTURE STATE

Click to add text

PROCESS DRIVEN
 OBJECTIVE
 CLEAR DEFINITION
 OF WHAT IS DONE
 WHEN.

III - PLAN / STRATEGY (PLAN)

Required Condition	Reason	Expected Effect	Responsibility
What? / How	Why?	What	Who

Jan Feb Mar Apr May Jun Jul

PL: Lylal + HongYing.Ferninand, Chris

IV - PLAN - ACTIONS (DO)

Click to add text

- Select team & Project Lead
- What do we need? What questions have we got?
- What is low hanging fruit – what can we do right now?
- Discuss and generate a high level plan
-

VI - UPDATES / DATA (CHECK)

Click to add text

SEE DATA PROVIDED FROM HARRY WARD.
 HAVE IT READY IN WORK.
 PDCA.
 PDR – SEE FOR US.

Who Status

PROGRESS DELIVERED

 HAVE PROGRESS FOR
 SOMEONE'S DELIVERABLES

 WHAT IS CHANGED
 I THINK
 PROCESS
 CONSEQUENT CONTROL

Click to add text

THE A3 "PROBLEM SOLVING STORY" APPLICATION

Tell a problem solving story when:

- A plan, goal, or standard exists but the target is not being met.
- Problem solving activities need to be organized and communicated.
- Project or improvement activities need followed organized and tracked.

PROBLEM SOLVING REPORT STORY

THEME

PROBLEM SITUATION

COUNTERMEASURES

TARGET / GOAL



IMPLEMENTATION

CAUSE ANALYSIS

FOLLOW-UP

AUTHOR: _____ DATE: _____

A3 EXAMPLES - PROBLEM SOLVING STORY

Background Production information accessed by programming team on a daily basis in the morning report, EC and PI is not reliable and is incomplete. As a consequence time is wasted to gain information, identifying a problem area is too complicated, and deferrment recording is not accurate. This leads to increased production deferrment.	Proposed Countermeasure(s) 1) PI Processbooks: Implement a standard PI Processbook to monitor wells performance and one for Process performance of key components. 2) Daily Report: Identify wells and improve morning report data input. 3) EC Deferrment: Improve deferrment entry process, provide daily feedback of deferrment entry, and provide training to offshore staff.
Current Conditions Programming checking past day and current status times. CWA10mvdppr, BMM10dvdppr, CM10r not available, only morning report & EC checked. This waste us to a slow deferrment resolution reaction (sometimes on the next day). PI Processbooks - Many for each East Asset cluster (CVA, BMM10, CM10) - All with different information tags & color coding - No standard display - No overview page Daily report - Information missing - Not accurate EC deferrment entry - Not accurate	Plan  SOP will not be locked-off by project. Deferrment coding simplification, and Standard well and process LBS tool.
Goal(s) <ul style="list-style-type: none"> Reduce time taken to: <ul style="list-style-type: none"> Know reasons for past & current deferrment Know current status for wells and key process components Ensure correct Deferrment recording Reduce deferrment (by 1000000 or more) Analysis 1. SIPOC to understand the process 2. SIPOC: 1) Daily Programming workflow, 2) Offshore well the daily report process 3. VSM to identify issues and highlight key ones 4. Fishbone to identify root causes. Key opportunities identified	Results and Followup 1) Production information is reliable for all clusters and key process equipment. Standard well PI. Faster response to deferrment (on the day), proactive identification of issues and their location. Overall reduction in time of morning checks for BMM10 from 30min to 10min. 2) Proposed standard spreadsheet for each offshore team to enter morning report data, once all engineers updated a master file up to date and updates the report. To be implemented once IT resources secured to do changes (2016). 3) As a result of Offshore visit (10/11) gentle walk and quick win identified: Stopped Prod. Analysis: deferrment report (not longer necessary) and gained 30min of their time to improve data. Daily feedback from Programmer to Production Analyst (Offshore) when deferrments are corrected. Tracking of deferrment data:  Sustain: - Continue with daily tracking of deferrment data quality - Offshore training on EC deferrment coding to start in 2016 - SOP in place. PI, SIPOC, VSM, Fishbone, Standards, Procedures, Guidelines (see slide 7)

Project owner: Maximilian Wehnert

THE A3 “STATUS STORY” APPLICATION

Tell a status story when:

- You are establishing specific activities for a new goal.
- Reporting on the major points of large goals.
- Communicating important information such as annual plans, and mid & end-of-year reviews of goals and objectives.

STATUS REPORT STORY

THEME

I. BACKGROUND

II. OBJECTIVES

III. IMPLEMENTATION			

IV. TOTAL EFFECT

V. UNRESOLVED PROBLEMS / FUTURE ACTIONS

AUTHOR: _____ DATE: _____

[illegible]

- An Informational Story summarizes the current situation only. It does not include an evaluation.
- Informational stories are used to convey general information to any audience.
- There is freedom to choose different types of formulation
- Visualization is a very important part of the process

INFORMATION STORY

THEME

BACKGROUND

WHAT'S THE RESULT

WHO INVOLVED

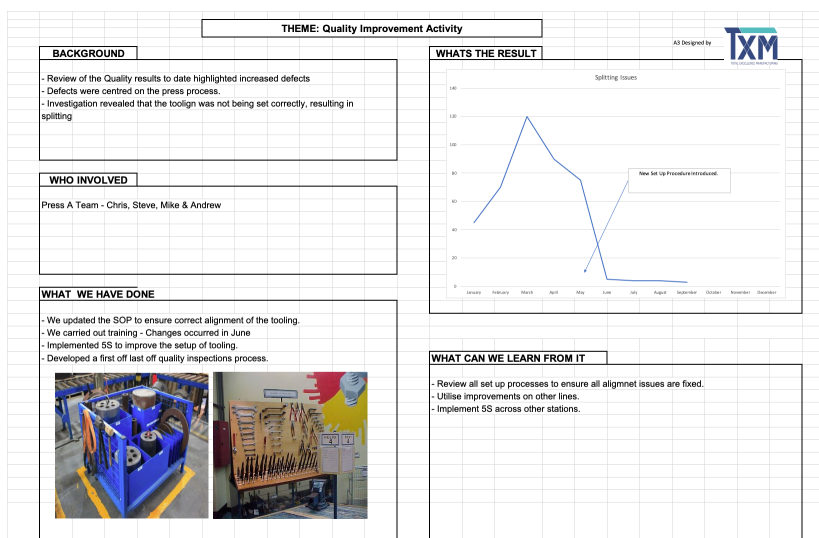
WHAT WE HAVE DONE

WHAT WE CAN LEARN FROM IT

AUTHOR:

DATE:

A3 EXAMPLES - INFORMATIONAL STORY





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