

Initial Situation

Grundfos, one of the world's largest pump manufacturers were facing many challenges, most notably the economic down turn, high labour costs in Denmark and production moving east. They possessed a strong desire to be recognised as world leaders in their field.

The organisation recognised the need to respond quickly to market fluctuations. This requires production flexibility and reduced inventories. It was understood that adopting a lean manufacturing philosophy was the way to achieve this.

Lean Coaching were recommended by other leading blue-chip companies as a catalyst for change to a Lean organisation. Based on this and the success of several small pilots, Grundfos forged a partnership with Lean Coaching in the form of a Lighthouse...

Grundfos products and statistics:

Circulator Pumps



Submersible Pumps

Represented by more than 80 companies across 45 countries.

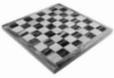
Manufacturing facilities in 17 countries with over 16000 employees.

Producing 16 million units per year.

50% market share returns a sales revenue of around 19,000 Million DKK.



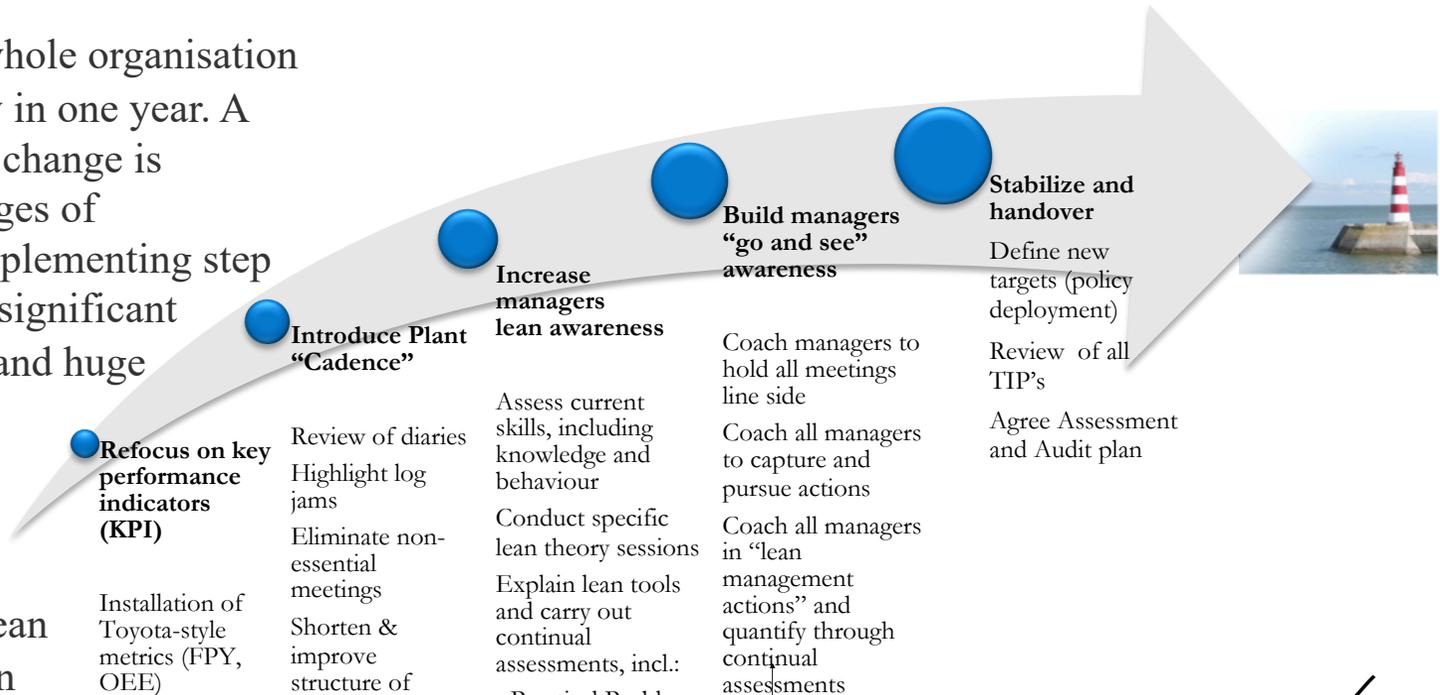
Centrifugal Pumps



Lighthouse Implementation Concept

A lighthouse transforms the whole organisation to a lean and managed facility in one year. A bespoke and detailed plan for change is generated. It is based on 5 stages of management coaching and implementing step change. The model generates significant improvement in productivity and huge behavioural change.

Grundfos were assessed by Lean Coaching to establish the Lean Maturity of the organisation. This enabled Lean Coaching to plan the transition and for Grundfos to prepare their organisation for the journey.



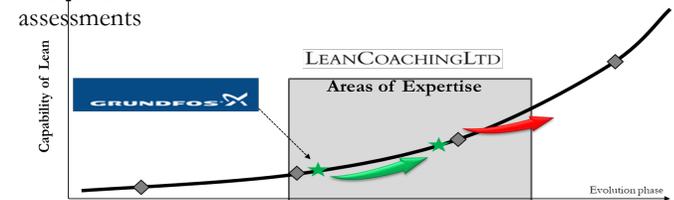
Refocus on key performance indicators (KPI)
 Installation of Toyota-style metrics (FPY, OEE)
 Connect metrics to financial performance
 Implement clear visual factory

Introduce Plant "Cadence"
 Review of diaries
 Highlight log jams
 Eliminate non-essential meetings
 Shorten & improve structure of remaining meetings

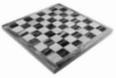
Increase managers lean awareness
 Assess current skills, including knowledge and behaviour
 Conduct specific lean theory sessions
 Explain lean tools and carry out continual assessments, incl.:
 - Practical Problem Solving
 - Visual management
 - Hourly counting

Build managers "go and see" awareness
 Coach managers to hold all meetings line side
 Coach all managers to capture and pursue actions
 Coach all managers in "lean management actions" and quantify through continual assessments

Stabilize and handover
 Define new targets (policy deployment)
 Review of all TTP's
 Agree Assessment and Audit plan



Driver	• Consultant / external push	• Top Management Push • Production System Dept.	• Top Management Pull	• Organizational Pull
Focus	• Tools / Toolbox	• Production System • Methods	• Holistic Business System • The way Toyota implements	• Toyota / Corporate Way
Approach	• Point Kaizen / Workshops	• Audit / Best Practice • Broad Training	• Coaching / Shopfloor Mgmt.	• Learning Organization
Stadium	• Infant	• Teenager	• Adult	• Wise Old Sage



Shop Floor Management Coaching

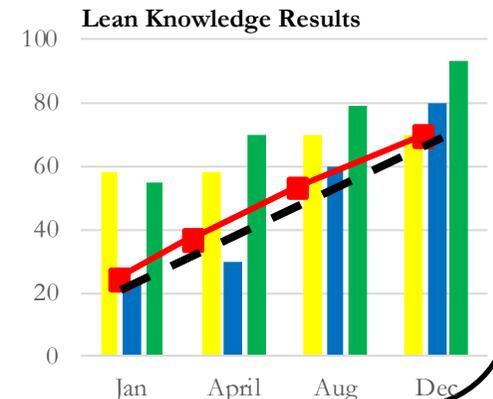
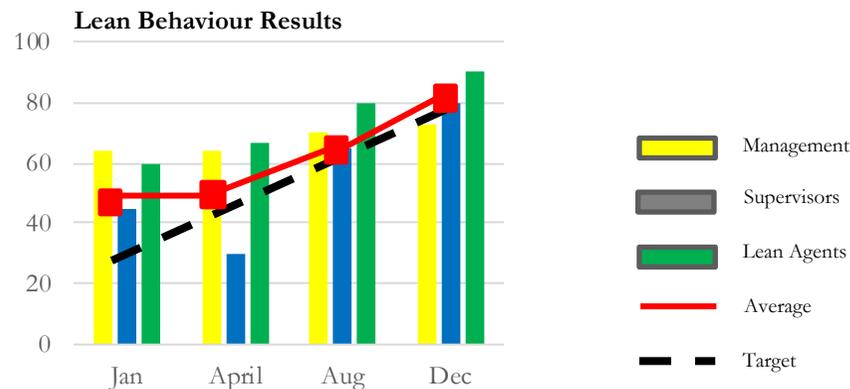
We employ a 'Sensei' coaching approach. Assigning successful former Toyota Leaders from our coaching staff, to key personnel at every management level.

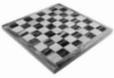


In addition to management, each Lean Coach has developed an internal Lean agent. This establishes a team of Lean experts capable of sustaining future improvement.

- A manufacturing diary is established as a frame work for Go and See.
- Coaching addresses real problems the shop floor is experiencing and generates real improvements in KPI.
- SFM coaching changes the management culture, where the power of the whole organisation is realised.

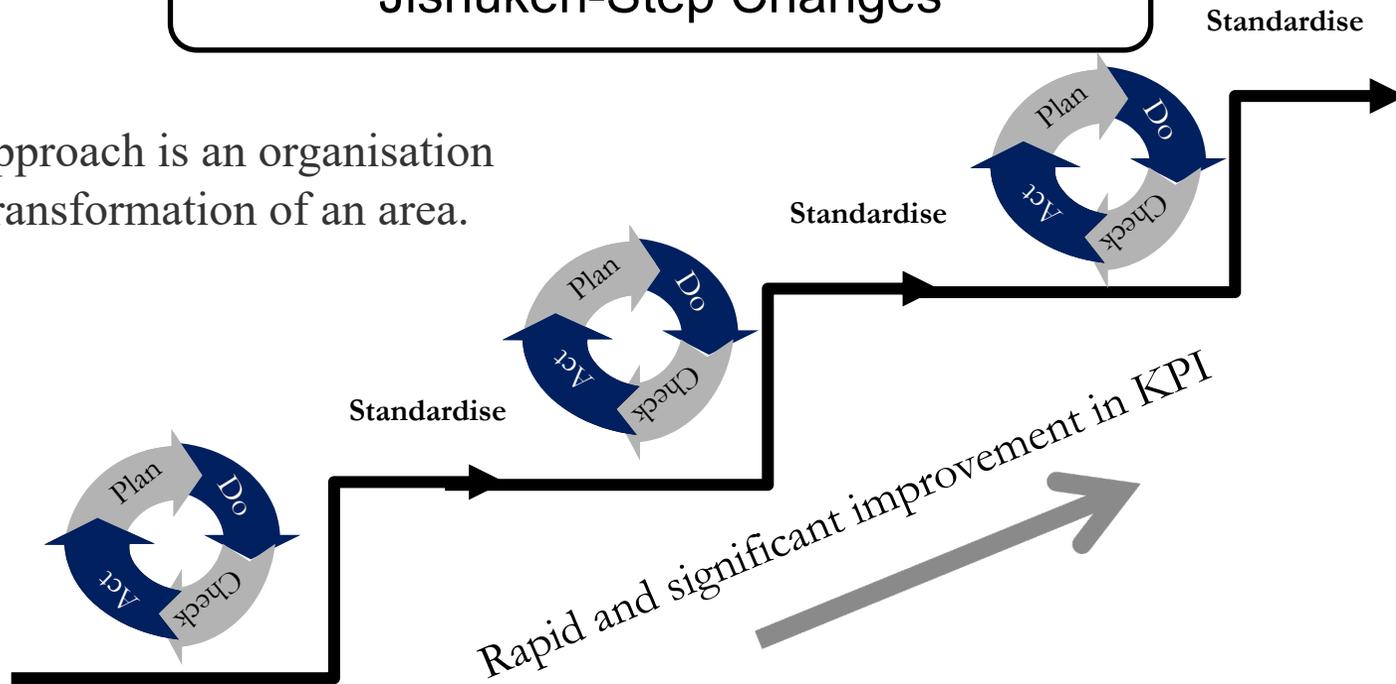
Each coachee is continually assessed in knowledge and behaviour. This ensures structured and meaningful coaching and measures growth.





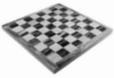
Jishuken-Step Changes

The Jishuken approach is an organisation focused rapid transformation of an area.



- Through challenging target setting, the need to improve was generated.
- The step change is bespoke to the area and reflects the business need.
- Areas have been transformed by participants of all levels using lean tools and lean principles.
- They have “learnt by doing” themselves, and now know “how,” as well as “what,” to do.
- This approach embeds new skill sets and makes for sustainable improvements.

Pull on the support departments is generated and has challenged traditional management thinking.



Lean Education

The ‘Lean Day’ is an off-site seminar where the teams are given a basic introduction to Lean tools and principles.

“That was a good day, I gained a great understanding of what Lean means in my department.” Joan Pedersen, Production operator dept. 2507.

Lean Day



Lean Theory Session



Lean theory sessions develop knowledge and understanding, whilst, giving real meaning and purpose to ‘text book’ explanations. This then forms a foundation for the practical improvements undertaken and aligns management thinking.

“Great way to present, they have been a great help for us.”

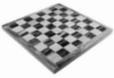
Bent Graugaard, Production Leader.

Practical Problem Solving -Share and Grow Session

After PPS coaching on real problems, individuals present their learning to the group. Through collective feedback on techniques and methods the team’s development is accelerated. A common understanding and structure towards problem solving is established.

“Never before have we shown such teamwork and used real data to find the root cause of problems so quickly.”

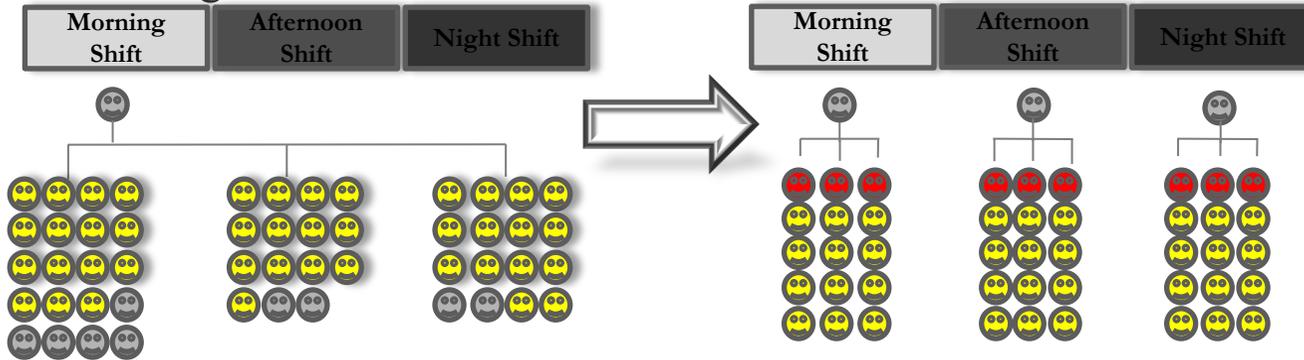
Thomas Sorensen, Fulfilment Manager.



Lean Organisation

The Lean Coaching organisation proposal was implemented as a pilot giving many benefits:

- Span of control reduced allowing detailed focus and the correct time on problem solving.
- Working groups at a maximum 1:7 ratio for ownership and empowerment.
- Development of Facilitator role (Team Leader).
- Facilitators covering absenteeism.



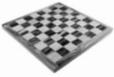
Facilitator function clarified through Minimum Job Role and Visual controls.

Facilitator Minimum Job Role

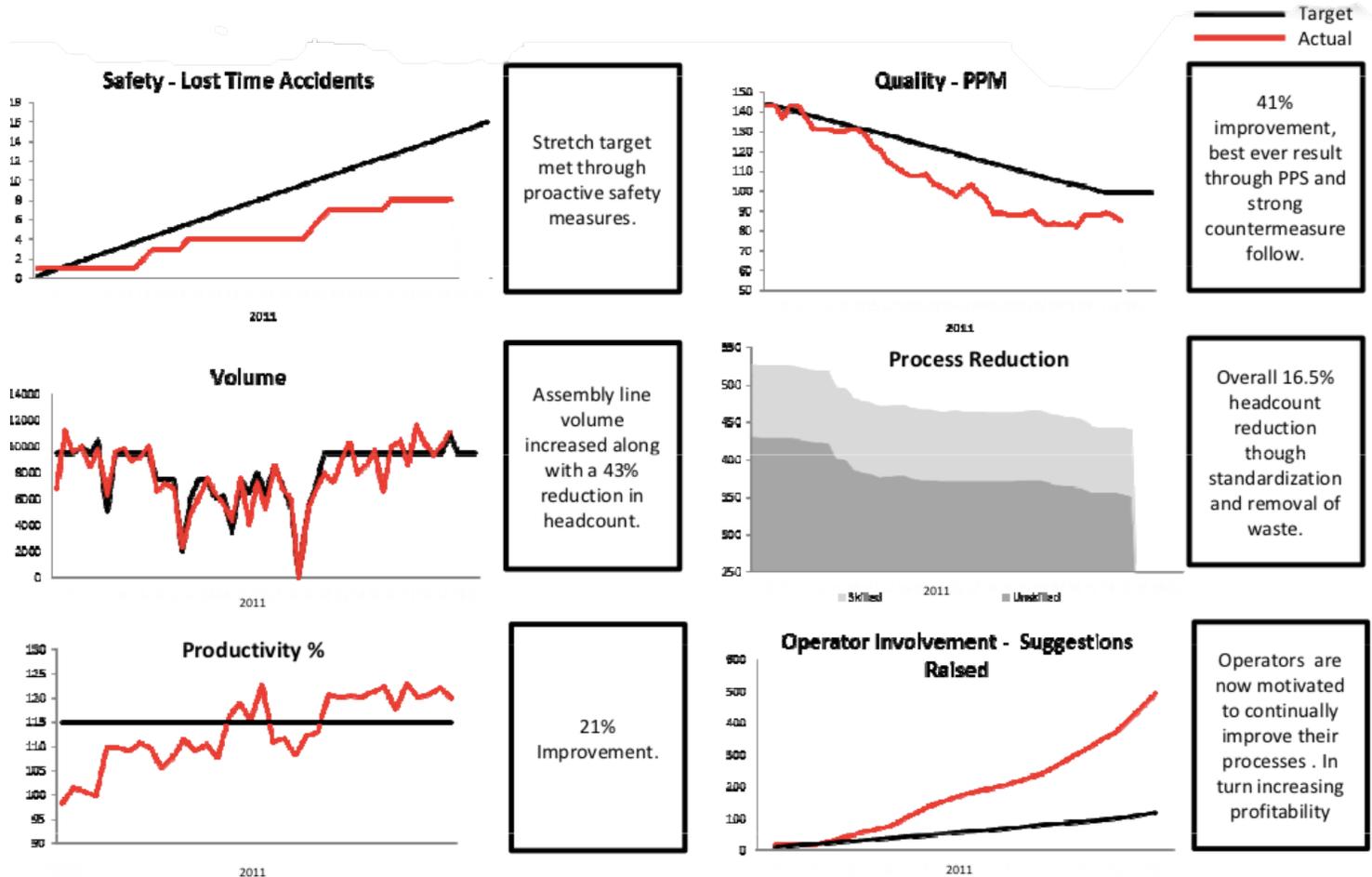
Area	Facilitator	Team Lead	Team Member
Production	1	1	1
Quality	1	1	1
Maintenance	1	1	1
Health & Safety	1	1	1
Environment	1	1	1
Customer Service	1	1	1
Process Control	1	1	1
Standardised Work	1	1	1
Empowerment	1	1	1
Ownership	1	1	1

- 3 equal shifts.
- Job rotation within teams.
- Reduced training requirement.
- Process control through standardised work.
- Empowerment and ownership.

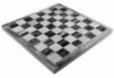
The power of the whole work force is released, with management supporting all 600 people to solve problems and improve the company.



Comprehensive Results



Grundfos received an employee nominated National award. 'The best work place in Denmark'. (3F)



Sustainment Through Daily Management

The tempo of operations is structured by the manufacturing diary.

“3-minute visual management” allows the management team to take control of the entire business.

Short KPI focused meetings at Factory and Department level quickly show the status and allow positive actions to be confirmed.

Manpower is visualised, allowing instant confirmation that all processes are carried out by the correct number of skilled operators.

***Confirmation of real situations and actions taken is achieved through Go and See.
Management now spend 68% of the day on the shop floor.***

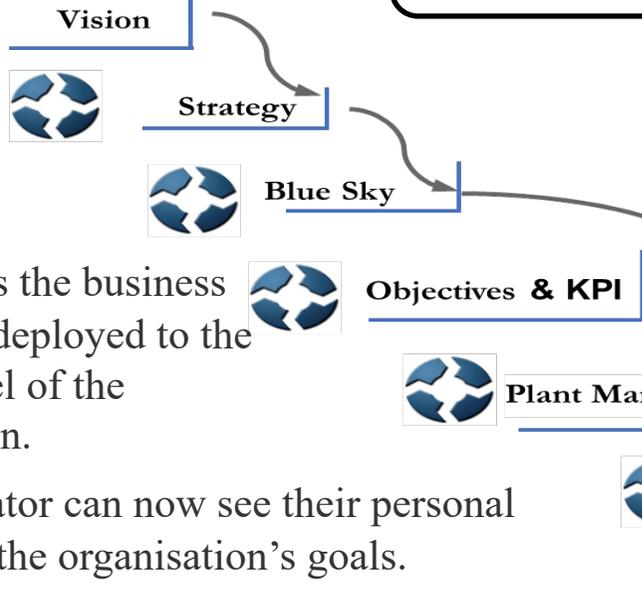
Factory Meeting



The introduction of standardised work has given a sustained base for continuous improvement.



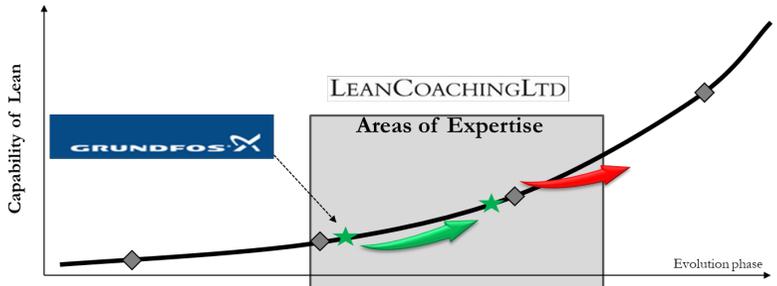
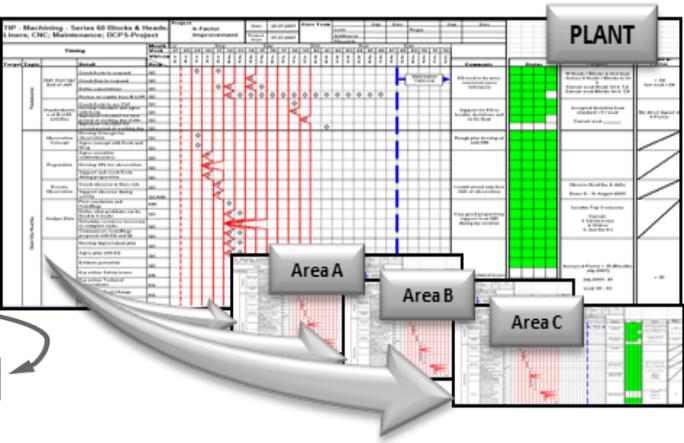
Sustainment By Hoshin Kanri



Lean Coaching have guided Grundfos through a Blue Sky process allowing the introduction of Hoshin Kanri.

This allows the business plan to be deployed to the lowest level of the organisation.

Each operator can now see their personal impact on the organisation's goals.



Through this process Grundfos can now continue their Lean evolution with a clear 5-year plan.

Driver	<ul style="list-style-type: none"> Consultant / external push 	<ul style="list-style-type: none"> Top Management Push Production System Dept. 	<ul style="list-style-type: none"> Top Management Pull 	<ul style="list-style-type: none"> Organizational Pull
Focus	<ul style="list-style-type: none"> Tools / Toolbox 	<ul style="list-style-type: none"> Production System Methods 	<ul style="list-style-type: none"> Holistic Business System The way Toyota implements 	<ul style="list-style-type: none"> Toyota / Corporate Way
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