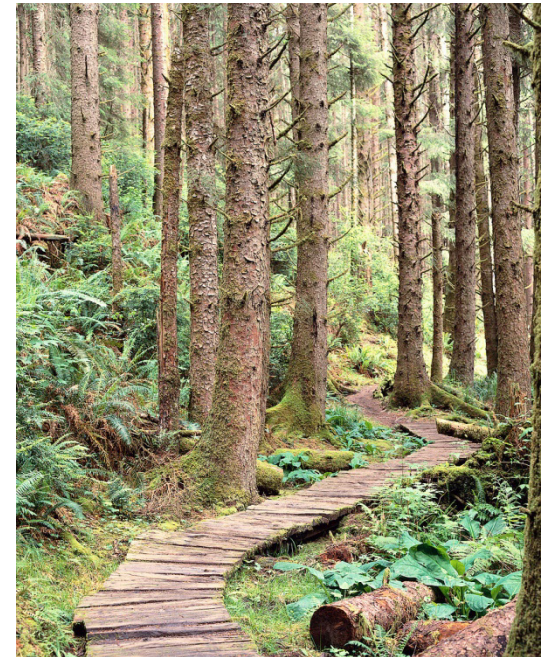




Striving for Operations Excellence in New Zealand

Alan Gleason
Senior Navigator CTPM



Milestones Along the Journey

- Brief Background on the Business
- Getting Quality and Safety Right
- People Development – Discovering Teams
- Applying CI Tools – specialist approach
- Discovering TPM a more holistic approach
- External Influences – Competition from Asia
- The Impact – Site Rationalisations
- Reflections on the journey





Fully integrated forest, pulp and paper, FMCG tissue converting, diaper and packaging manufacturer on 7 sites in NZ.

Purex and Sorbent Bathroom Tissue



Handee Kitchen Towel



Snowtex (Sorbent) Facial Tissue



Treasures Diapers



Hostess Serviettes and Deeko Tableware

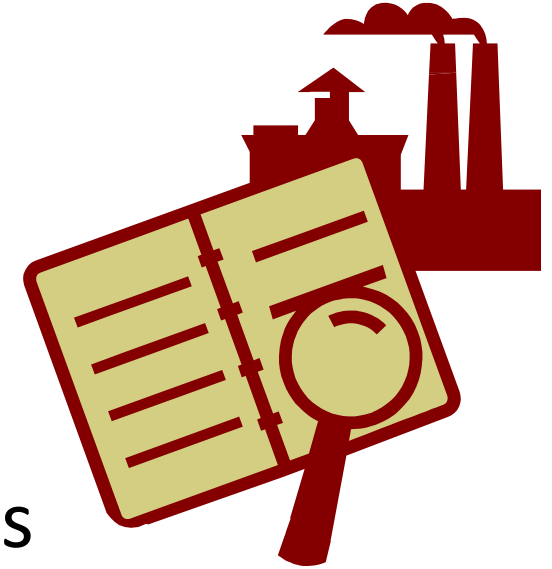


Hygenex: Away From Home Products



1994 Quality: ISO 9001

- Quality Systems Development
- Site Quality Launch – 24 hour shuts
- Trained Area Writers in Information Mapping
- Developed Standard Operating Procedures
- Quality and Customer Focus Training
- Quality Improvement Teams
- Internal Quality Auditor Training 50 people



Quality Learnings

- Manuals written by local frontline people were the best quality and were followed by Operators
- Using outside consultant writers left some gaps and had little ownership from users
- Cross Site and Cross Function Quality Teams broke down barriers and improved communications
- Internal Auditors proved valuable for ISO and Health & Safety (H&S)
- Established the foundation for future improvements



1995 Happy Birthday



- Caxton Celebrates 100 Years
- Name Changed to:



Carter Holt Harvey

Tissue

- Purchases Bowater Scott (Sorbent, Dekko, Libra and Tena)
- 1996 **Christchurch** closes – Plant to OZ
- CHH 100% owned by International Paper

1995 Health and Safety



- At IP, Health & Safety is a core value
- H&S became a Key Performance Indicator
- Safety Management Systems development
- Site and Area H&S Teams – Self Managing
- Hazard Identification and Control
- Safety Auditing – Internal and External
- Safe Behaviour Observation (SBO)

Health & Safety Learnings

- Elimination / isolation of hazards and reducing accidents made good business sense
- H&S Teams broke down barriers between management and shop floor
- External auditing allowed best practices to be shared and adopted amongst all sites
- SBO required mature Teams that cared about each other

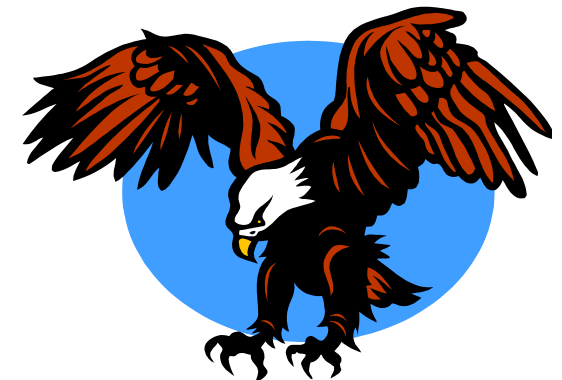
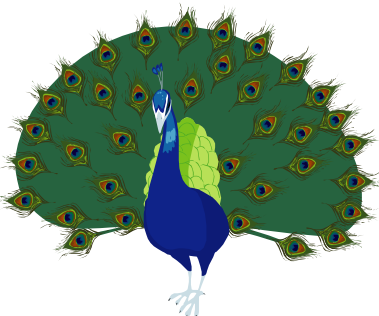




1996 Team Leadership

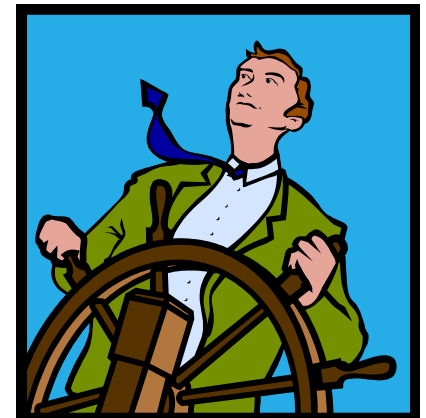


- Three day live in course; Cross Sites, Inter-departmental, start at top, work down 500+
- Toyota Model: Task + Team + Individual
- Individual Responsibility and Accountability:
Events + Reaction = Outcome
- Human Behaviour and the Four Birds:
Doves, Owls, Peacocks and Eagles



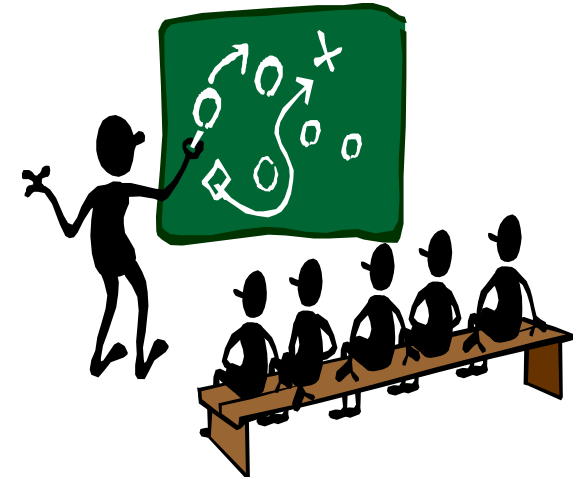
Leadership Development Learnings

- Consistency of purpose: all Leaders plus reports (500+) trained with the same message
- Can't train and expect people to transform
- Need ongoing coaching and development
- Developing Leaders is not easy, but critical for success of your Area Based Teams

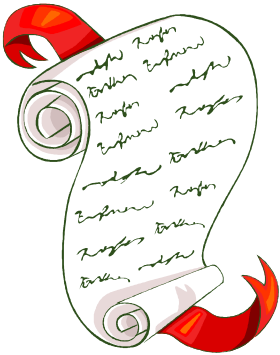




Team Charters 1997



- Team Purpose: the reason for being
- Team Values and Code of Conduct
- Team Key Performance Indicators
- Team Member Roles: Portfolios
H&S, Quality, Training, TPM, Communication
- Service Level Agreements: Suppliers / Customers



Team Charter Learnings

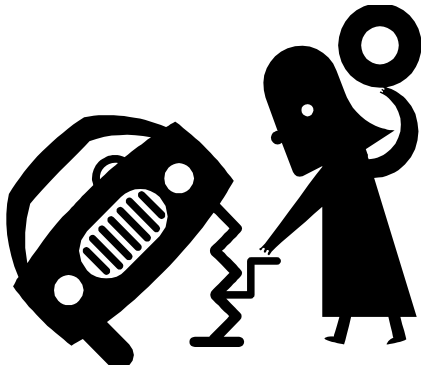
- Clarified purpose and what was important
- Identified individual roles and created development opportunities
- Spread workload amongst the Team
- Needed to be reviewed to keep it a living document
- Established Teams Noticeboard and paved the way for TPM methods



1998 Pit Stop Grade Changes

- NASCAR Pit Stop Model ex P&G USA
- Going to Going: no ramp up
- Centreline Set Points with no adjustments by specialists to fine tune machine
- Cross-functional Team Problem Solving through observations of activities
- MOTO: No Tools;
No Training; and
No Time.





Pit Stop Learnings



- Highlighted the critical importance of Centreline Setting Points
- Broke down barriers between Tradesman and Operators and Management
- Developed disciplines to plan, prepare and follow changeover checklists
- Grade changes went from a “hated” event, taking forever, to an Operator “challenge”

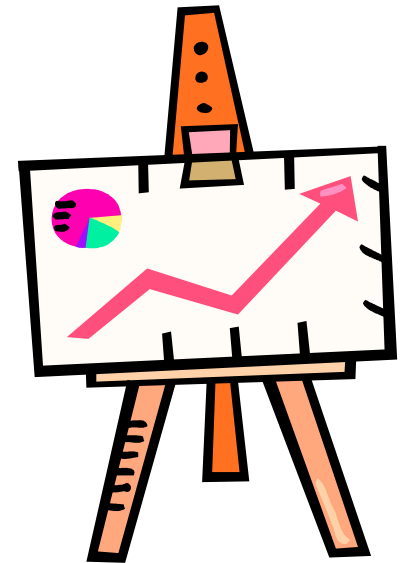


TPM³ at Carter Holt Harvey Tissue

- 1998 **Swanson Road** TPM Intro and Awareness
- 1999 Launch Diaper Department: Pilot Macro FE&PI x 3
- Work Area Management (WAM) x 4 and Micro FE&PI x 3
- Operator Equipment Management (OEM) Step 1 and 2 x 4 + Micro FE&PI
- 2000 Toilet Tissue Dept. transfer to **Te Rapa** and **Kawerau**
- OEM Step 2 and 3 x 8 and Micro FE&PI x 3
- Maintenance Excellence Management, WAM, MIT
- Facials, Serviettes, Support Imp. Teams Warehouse
- 1999-02: 12 Cycles; 15 Area Based and 25 Cross-functional Teams



Achievements and Learnings



- Diaper Customer Complaints halved
- OEE: 1999 = 48% 2002 = 70%
- Waste: 1999 = 10-12% 2002 = < 5%
- 3 down to 2 Diaper lines making the same volume
- Grade Changes from 12-16 hours to < 4 hours
- Gallop Staff Survey results: 4 / 5 = top quartile
- Diaper teams too big, cut in half for better results
- Manual packing skill set not suited for OEM
- Maintaining cleaning standards proved challenging



Roll Out to Other Sites

- 1999 **Henderson Valley Rd.** Macro FE&PI +WAM
- 2000 Centres of Manufacturing Excellence:

Operation	Site
Diapers	Swanson Road
Consumer Tissue	TeRapa and Box Hill
Facial	Box Hill
Serviettes	Keon Park
Away From Home	Kawerau

- 2000 Sold Film Extrusion and Printing business
Concourse and **Henderson Valley Rd** Sites Close
- Transfer of Equipment to **Kawerau**



Roll Out Continues



- 1999 Te Rapa Tissue Rewind
- Pilot Macro FE&PI x 2 and WAM x 4 + Micro FE&PI
- 2000 Site Expansion: 2=> 3 Tissue Re-winders
- OEM pilots on Core Making lines
- TPM³ Co-ordinator Resigned, no driver / direction
- 2006 Site Expansion Serviettes (Keon Park Closes)
- New Technology Decolamination focus / issues
- CHH Tissue was bought by SCA





Roll Out Stops



- SCA: Manufacturing Excellence Model
- TPM³ no longer supported, Europe Model Rules
- 2010 **Swanson Road** Closure
- Diaper Line shifted to **Te Rapa**
- Strong Five S implementation, Food Safety Stds, Scorecards, Waste Reduction
- PM1 Shuts – coloured Napkin – Serviettes shut
- 2013 Consumer Tissue moved to **Kawerau**,
Te Rapa Site Closes





2000 Kawerau

(wind back the clock)



- New Converting Lines (6) on a Brown Field Site
- High levels of demarcation and site challenges
- Highly automated converting, packing and palletisation (18 people => 4 people)
- 2002 TPM³ Awareness Training
- 2003 Cross-functional Inter-shift Team:
H&S + WAM + Kanban raw materials ordering
- Macro and Micro FE&PI Teams



Kawerau Continues



- Daily, weekly, six weekly Operator Plant Care inspections. Local Polytech plant care training
- Critical Line Daily Review process on floor
- New Equipment Management Log Saw
 - New Machine Specifications: TPM/User Friendly
 - Factory Acceptance Team
 - Install, commissioning, training, handover
- Pit Stop Rapid Changeover (SUTR)



Kawerau Continues



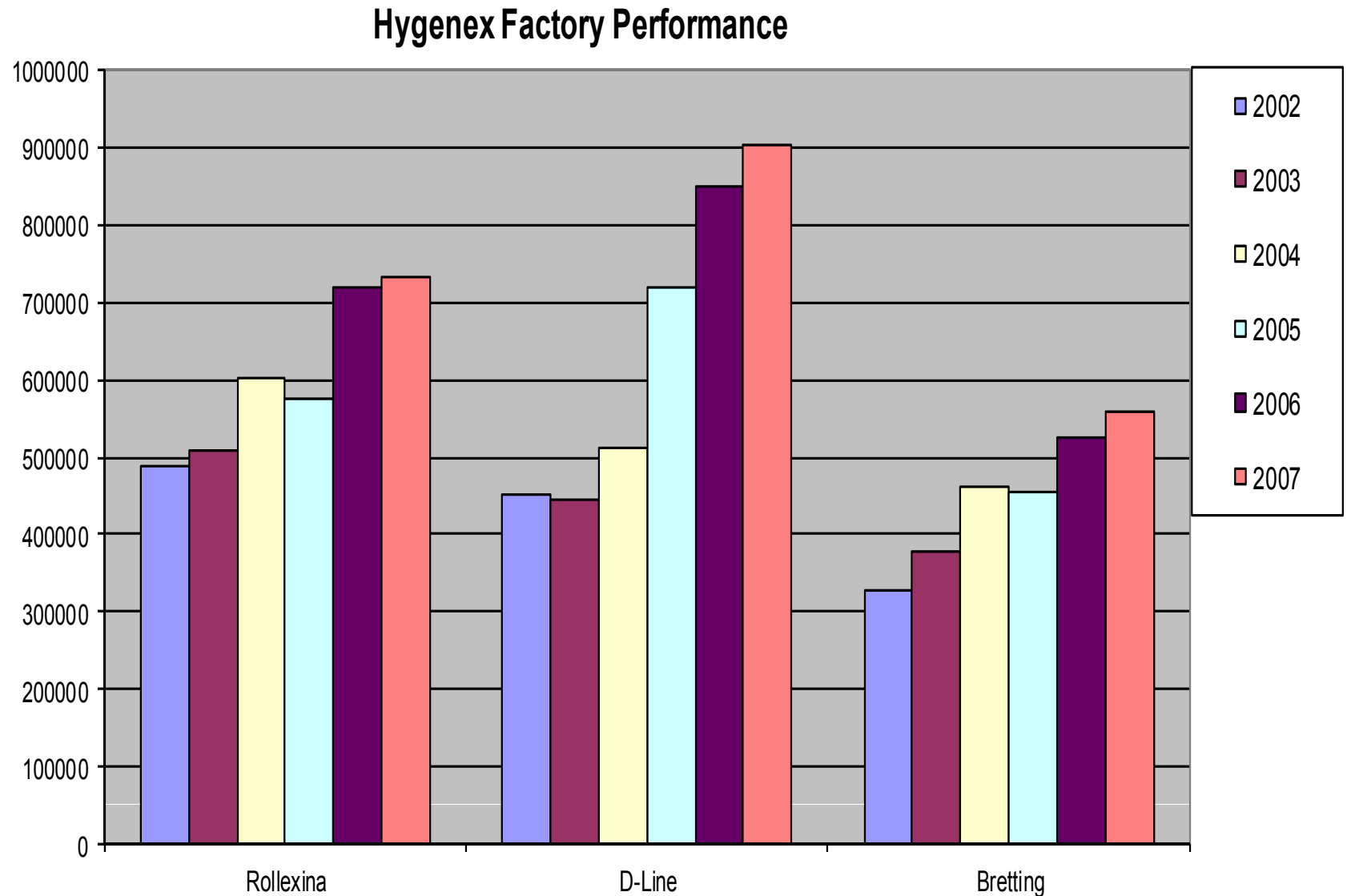
- 2005 SCA Buys CHH Tissue Hygienex => TORK
- Maintenance Excellence Management
 - Good Planning through SAP
 - Reliability Focus
 - Clean for inspections during Market Shuts
 - Operator Care: Trades on Train the Trainer
- 2010 SCA goes JV with Venture Capitalist PEP
- 2012 Project Samson
 - Consumer to Kawerau, close Te Rapa
 - AFH to Monday to Friday (increase capacity)



Kawerau Benefits

- Factory Accident Rates (LTI, DCI) fell 85%
- Output increased from 1.7 to 3.2 million cases
- OEE went from 40-50% up to 60-75%
- Customer Complaints fell from 75 to 15 / million
- Cost per case fell 10% between 2006 to 2013
- Skills: 85% of Operators had National Certificate
- 2005 FITEC Training Company of the Year Award
- Grade Changes 6-8 hrs to < 3 hrs. Checklists
- NEM Log Saw delivered 25% improved output

Annual Machine Performance





Journey Learnings

- Had the most success when change initiatives were driven from the highest level
- Team size and shift structures are critical
- Need to train all your people in FLPS and TPM Tools to get engagement at Floor level
- TPM³ resourcing and support is critical as area leaders have a day job to complete as well
- Must incorporate all improvement initiatives into TPM³ plans, otherwise they become distractions and divert energies



Journey Learnings

- Developing the people's skills made it happen and prepares those people for an uncertain future
- In twenty years we went from 7 sites and 1,000 people to 1 manufacturing site with 350 people
- Those casualties who left the business, including myself, left with greater knowledge and skills than when they joined us
- For most of those people, just like myself, the journey for Operations Excellence continues.....

