Innovation - Management Strategy by TRUMPF

Friedrich Stockinger
23.04.2014
TRUMPF - Innovative in all values:

Staying independent

Committed to the future – long term vision

Leadership in its core Technology

Good corporate culture
Milestones of TRUMPF

1923
Christian Trumpf acquires shares in Julius Geiger GmbH

1957
Berthold Leibinger becomes Managing Partner

1966
TRUMATIC 20: First numerically controlled machine

1968
Machine tool with coordinate guidance

1968
TLF 1000: First own CO₂ laser

1985
TruDisk disk laser

1999
Nicola Leibinger-Kammüller becomes new president

2005

2012
All 2D laser cutting machines with CO₂ or solid-state laser
**Business divisions:**

World market and technology leader in production technology

<table>
<thead>
<tr>
<th>Machine tools</th>
<th>Laser technology</th>
<th>Electronics</th>
<th>Medical technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine tools for flexible sheet metal and tube processing</td>
<td>Lasers for production technology</td>
<td>Power supplies for high technology processes</td>
<td>Equipment for operating rooms and intensive care units</td>
</tr>
</tbody>
</table>
Long-term success

Development of sales

Sales fiscal year 2012/13

2.34 bill. €

* Source: TRUMPF Annual Report 2012/2013
## At a glance – Company Figures

<table>
<thead>
<tr>
<th>Fiscal Year 2012/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (in mil. €)</td>
</tr>
<tr>
<td>Income before taxes (in mil. €)</td>
</tr>
<tr>
<td>Investments (in mil. €)</td>
</tr>
<tr>
<td>Expenditure for research and development (in mil. €)</td>
</tr>
<tr>
<td>Employees (as of 06/30/2013)</td>
</tr>
<tr>
<td>Locations Worldwide</td>
</tr>
</tbody>
</table>
A universal approach to innovation

Constant innovation - in machines, markets, manpower and methods

* Business Field Machine Tools
Machine tools business division

- Punching and Combination Processing
- 2D Laser Processing
- Bending
- Laser Tube Cutting
Laser technology business field

- CO₂-Lasers
- Marking Lasers
- Solid-state Lasers
- 3D Laser Processing
Electronics business field

- Plasma Excitation
- CO₂ Laser Excitation
- Induction heating
- Application Consulting
SYNCHRO – A METHOD TO SUCCESS
A universal approach to innovation

Constant innovation - in machines, markets, manpower and methods

* Business Field Machine Tools
Synchronous Production

Flow-lines are more efficient than stationary assembly stations
Synchronous Production

With SYNCHRO in production we were able to implement massive improvements (e.g. TruLaser production line)

- Ø assembly time in hrs
  - 294 hrs, 33% improvement
  - 194.7 hrs, 20% improvement
  - 155.8 hrs, 25% improvement
  - 116.6 hrs

- Lead time in hrs
  - 168 hrs, 31% improvement
  - 115.2 hrs, 22% improvement
  - 89.6 hrs, 25% improvement
  - 67.2 hrs

- Floorspace productivity in machines per m² and year
  - 0.088, 33% improvement
  - 0.13, 31% improvement
  - 0.17, 30% improvement
  - 0.22

- Max. volume of machines per year
  - 350, 67% improvement
  - 583, 29% improvement
  - 750, 33% improvement
  - 992
Synchronous Production

SYNCHRO is implemented in all TRUMPF plants

TruMatic (Ditzingen)  TruPunch (Hettingen)  TruFlow (Ditzingen)
Generators (Freiburg)  TruBend (Pasching, AT)  TruLaser (Grüsch, CH)
Office SYNCHRO

Since 2003, Office SYNCHRO was implemented in a 4 step approach

Step 1
- Improve personal organization
  - Identify waste
  - 5S
  - Time management
  - Ergonomics

1-2 months

Step 2
- Improve cooperation
  - Rules and agreements
  - Standardization
  - Working in teams
  - Mentoring

1-2 months

Step 3
- Improve processes
  - Process mapping
  - Problem solving cycle
  - Responsibilities
  - Qualification

6 months

Step 4
- Steering with key figures
  - Goals
  - Key figures
  - Annual plan
  - Team boards

2 months

- Customer orientation
  - Costs
  - Quality
  - Lead time

- Areas
  - Material/furniture
  - Search times

Customer orientation
Costs
Quality
Lead time

Goals
Key figures
Annual plan
Team boards

Personal responsibility
Self-supervision
Continuous improvement

1-2 months
2 months
6 months

* varies with the size and complexity of the department
Office SYNCHRO

In Step 1 and 2, the basis for process optimization is established

Individual work and Teamwork is improved by:

- Rules and standards
- Effective time management
Office SYNCHRO

Example: Optimization of offer and ordering process for machines

- Standardized processing
- Checklist to improve interface between field and internal sales staff
- Electronic folders are synchronized with the paper folders
- Result: Reduced callbacks, failures and a massive reduction of effort and lead time

Source: TRUMPF Sales Subsidiary Maschine Tools Division Germany, 2007
A universal approach to innovation

Constant innovation - in machines, markets, manpower and methods

* Business Field Machine Tools
SYNCHRO plus
How to get from implementation of methods to effective continuous improvement

- Good reputation
- Focus on methods
- Lack of sustainability

From “toolbox” to “philosophy”
- Quick and simple solutions
- Enabling of employees
- Managers are responsible for productivity improvement
- Sustainable CIP
SYNCHRO plus

SYNCHRO house describes SYNCHRO (plus) philosophy

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**SYNCHRO**

<table>
<thead>
<tr>
<th>Flow Principle</th>
<th>Takt Principle</th>
<th>Pull Principle</th>
<th>Zero Defects</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Value Add</td>
<td>100% Quality</td>
<td>100% One-piece flow</td>
<td>100% Safety</td>
</tr>
</tbody>
</table>

**Just In Time (Process Excellency)**

- Flow Principle
- Takt Principle
- Pull Principle
- Zero Defects

**Manage (Management Excellency)**

- Visualization and Transparency
- On-site management (Gemba)
- Working with target conditions

**Continuous Improvement Culture (Behavioral Excellency)**

- See and eliminate waste
- Development of people in all hierarchies
- Forceful problem solving
SYNCHRO plus

9 essential leadership tools help increase the efficiency of daily routine

- **Sit-In (H)** Personal development meeting
- **Management of best practices**
  - **Daily meeting (F)**
  - **Weekly meeting (C)**

- **Structured problem solving**
  - **Problem solving (A)**
  - **Tactical implementation plan (B)**
  - **Consideration of customer requirements (D)**
  - **Qualification matrix (E)**

- **Capacity management (G)** Standard operating procedure

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**SYNCHRO plus**

Capacity management is the operational driver of SYCHRO plus in indirect areas

At the beginning of the week, each employee reports the number of open issues (processable and total for each priority). The employee makes a forecast for the time allocated for the coming week for Issues, Projects and „Other“.

Each day the employee reports the following information:
- Number of incoming issues
- Number of planned issues to be processed this week
- Number of processed issues
- Actual Effort for Projects
- Actual Effort for „Other“

Teamleader totals the values.
# SYNCHRO plus

## Team Dialog: Board and Agenda

### Agenda (15min Meeting)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>2min</td>
</tr>
<tr>
<td>Capacity and activity planning per employee</td>
<td>5min</td>
</tr>
<tr>
<td>Problem board</td>
<td>5min</td>
</tr>
<tr>
<td>Team morale</td>
<td>3min</td>
</tr>
</tbody>
</table>

### Extended Meeting (1x week):

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPIs, achievements/activities</td>
<td>10min</td>
</tr>
<tr>
<td>TIP and Problems</td>
<td>10min</td>
</tr>
<tr>
<td>Weekly Forecast</td>
<td>10min</td>
</tr>
</tbody>
</table>

### Frequency

- Team “Punch”: Mon. - Thu.
- Team “Control”: Mon. - Fri.
- Team “Laser”: Wed. & Thu.
- Team “Tube”: Mon. & Fri.
PEAK PERFORMANCE
FAMILY COMPANY
INGENIOUS ENGINEERING

= TRUMPF