

*It is a visual display of key performance indicators and targets in the following categories:*

- S = Safety
- Q = Quality
- D = Delivery
- C = Cost

# Why Do SQDC Management?





# ***Characteristics of Useful Performance Metrics***

- Meaningful and understood by all
- Quantitative
- Visual, and includes an improvement target
- Can be tracked daily and maintained by the affected department
- Aligned with corporate/company-wide success



## Cost

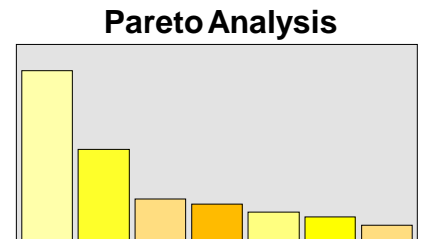
The figure consists of four line graphs arranged in a 2x2 grid. The top row is labeled 'Overtime' and the bottom row is labeled 'Scrap %'. The left column is labeled 'Daily' and the right column is labeled 'Annual'. Each graph has a y-axis from 10 to 100. The x-axis for the 'Daily' graphs shows dates from 3 to 27. The x-axis for the 'Annual' graphs shows months from J to D. Each graph contains two data series: a blue line with markers and a red line. In all cases, the blue line shows more variability than the red line, which represents a smoothed trend.

| Date | Blue Line | Red Line |
|------|-----------|----------|
| 3    | 50        | 55       |
| 6    | 55        | 52       |
| 9    | 45        | 48       |
| 12   | 42        | 45       |
| 15   | 45        | 42       |
| 18   | 52        | 48       |
| 21   | 40        | 42       |
| 24   | 32        | 38       |
| 27   | 30        | 35       |

| Month | Blue Line | Red Line |
|-------|-----------|----------|
| J     | 75        | 70       |
| F     | 65        | 65       |
| M     | 68        | 62       |
| A     | 65        | 58       |
| M     | 60        | 55       |
| J     | 55        | 50       |
| J     | 55        | 48       |
| A     | 30        | 42       |
| S     | 40        | 38       |
| O     | 35        | 35       |
| N     | 32        | 32       |
| D     | 25        | 28       |

| Date | Blue Line | Red Line |
|------|-----------|----------|
| 3    | 45        | 50       |
| 6    | 50        | 48       |
| 9    | 40        | 42       |
| 12   | 38        | 40       |
| 15   | 42        | 38       |
| 18   | 45        | 42       |
| 21   | 35        | 38       |
| 24   | 28        | 35       |
| 27   | 25        | 32       |

| Month | Blue Line | Red Line |
|-------|-----------|----------|
| J     | 70        | 65       |
| F     | 60        | 60       |
| M     | 62        | 58       |
| A     | 60        | 55       |
| M     | 55        | 52       |
| J     | 50        | 48       |
| J     | 50        | 45       |
| A     | 30        | 40       |
| S     | 40        | 38       |
| O     | 35        | 35       |
| N     | 32        | 32       |
| D     | 25        | 28       |



## Kaizen Newspaper

| Problem                | Action  | Who             | When | Result                                   |
|------------------------|---|-----------------|------|--|
| ikajadip               | ikajadipdik k s1 jadik<br>kaj asdik k s1                          | dajpe           | 1233 | dikaj kaj ask d jadik<br>s1              |
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| dikjok kadi            | dofed d   | dud             | 3448 |  |

- Injury incident days (safety cross)
- Lost work case incidence rate
- Total case incidence rate
- Potential hazards eliminated
- 5S audit results



# Safety Cross























|             |  |    |    |    |    |    |    |    |    |  |
|-------------|--|----|----|----|----|----|----|----|----|--|
|             |  |    |    |    | 1  | 2  |    |    |    |  |
|             |  |    |    |    | 3  | 4  |    |    |    |  |
|             |  |    |    |    | 5  | 6  |    |    |    |  |
|             |  |    |    |    | 7  | 8  |    |    |    |  |
|             |  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |  |
|             |  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |  |
|             |  |    |    |    | 25 | 26 |    |    |    |  |
| Month:      |  |    |    |    | 27 | 28 |    |    |    |  |
| Supervisor: |  |    |    |    | 29 | 30 |    |    |    |  |
|             |  |    |    |    | 31 |    |    |    |    |  |

Green = Safe Day

Red = Recordable Injury

Yellow = Minor Accident

- Number of defects
- First pass yield
- Ratio of first run acceptance
- Number of units returned to units shipped
- Total cost of quality
- Number of suggestions per year per employee
- Rate of implementation
- Suggestion lead time
- Time spent on improvement

|                 | <i>LH Main Frame</i>  | <i>RH Main Frame</i>  | <i>Tongue P/up Assy</i>   | <i>Pickup Assy</i>  | <i>Tailgate Assy</i>   | <i>LH Chain &amp; Sprockets</i>   | <i>RH Chain &amp; Sprockets</i>   | <i>Belts</i>  | <i>Hydraulic Hoses RH</i>   | <i>Hydraulic Hoses LH</i>   | <i>Checkman</i>   |
|-----------------|---|---|---|---|--|---|---|---|---|---|---|
| Jim Pink        |    |   |   |   |  |   |   |   |   |   |   |
| Keith West      |   |    |   |   |  |   |   |   |   |   |   |
| Tim Ball        |   |   |    |   |  |   |   |   |   |   |   |
| Bill Vanden     |   |   |   |    |  |   |   |   |   |   |   |
| Steve Johannsen |   |   |   |   |    |   |   |   |   |   |   |
| Bruce Hart      |    |    |   |   |    |  |   |   |   |   |   |
| Wayne Beek      |   |   |   |   |  |   |  |   |   |   |   |
| Denny Gray      |    |   |   |   |  |  |   |  |   |  |   |
| Tim Worth       |   |   |   |   |  |   |   |   |  |   |   |
| Dave Rose       |   |   |   |   |  |   |   |   |   |   |  |
| Dave Ring       |   |   |   |   |  |   |   |   |   |   |   |
| Rick Robinson   |  |   |  |   |  |   |   |   |   |   |   |
| Jim Long        |   |  |   |   |  |   |   |   |   |   |   |
| Jim Camp        |   |   |  |   |  |   |   |   |   |   |   |
| Mary Moss       |   |   |   |  |  |   |   |   |   |   |   |
| Joe Heisman     |   |   |   |   |  |   |   |   |   |   |   |



In Training



Can Run At T/T



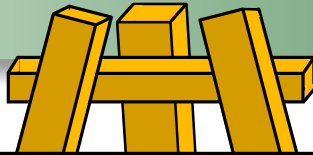
Can Set Up



Can Train Others

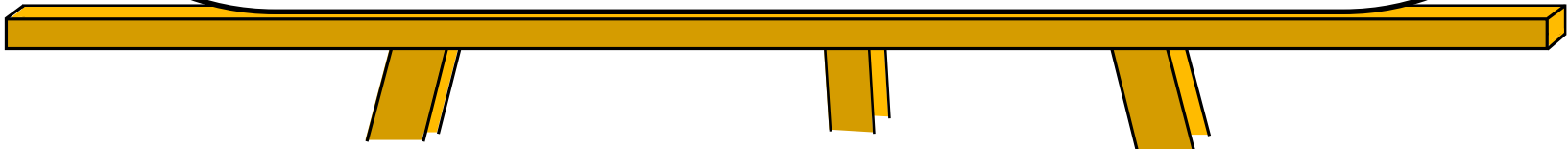


- On-time delivery rate
- Machine down time
- Ratio of setup to run time
- Ratio of setup external time to internal time
- Total travel distance
- Repeat visits to operations
- Number of control centers
- Work cell performance
- Items completed on schedule
- Average days of usage per lot size
- Number and area of different storage locations
- WIP reduction
- Number of work orders per direct employee
- External to internal leadtime ratio
- Supplier to customer leadtime ratio
- Number of skills (worker flexibility)
- Number of schedules changed
- Past dues not on last week's report
- This week's new expedites
- De-expedites of last week's expedites



# Hour-By-Hour Chart

| Hour       | Hourly |        | Cumulative |        | Comments / Downtime                              |
|------------|--------|--------|------------|--------|--|
|            | Target | Actual | Target     | Actual |  |
| 8–9        | 30     | 15     | 30         | 15     | Training new work sequences                      |
| 9–10       | 30     | 16     | 60         | 31     | Operator #2 over takt time                       |
| 10–11      | 25     | 18     | 85         | 49     | Line change for new model (10 minutes)           |
| 11–12      | 30     | 23     | 115        | 72     | Wrong parts delivered for new model (8 minutes)  |
| 12:30–1:30 | 30     | 27     | 145        | 99     | Workers late returning from lunch (4 minutes)    |
| 1:30–2:30  | 30     | 27     | 175        | 126    | Quality problem at press – line stop (5 minutes) |
| 2:30–3:30  | 25     | 25     | 200        | 151    | No significant problems                          |
| 3:30–4:30  | 30     | 29     | 230        | 180    | End-of-shift cleanup (2 minutes)                 |



- Scrap reduction (\$)
- Productivity
- Value added motion to total motion
- Value added to total lead time
- Standard to actual manning ratio
- Actual hours to daily standard hours
- Actual overtime vs. allowed overtime
- Overtime per unit manufactured
- Value added per hour
- Conversion credit/hours worked
- Material handling cost
- Stockkeeping cost
- Number of suppliers with price breaks
- Leadtime investment
- (Leadtime days) x (daily requirement)
- Value added to total space
- Value added to total assets
- Activity cost of expediting
- Ratio of production control to value added

- Emphasizes safety proactively
- Provides visual trend of progress against goals and objectives
- Identifies opportunities for improvement and correction
- Promotes rapid response to abnormalities
- Enhances greater communication