SYMAPRO

Phase 3:

# Integrated Measurement

Phases

1. Objectives, Baseline and Working Climate
2. Integration and Marathon of Improvement
3. Integrated Measurement
4. Feedback and Training Capsules
5. Core Competencies
6. Preparing STAG
7. Training of STAG-Facilitators
8. Competency Standard: National or Company
9. Training and Certification of Assessors
10. Assessment and Certification of Workers
11. Competency based Compensation
12. Results and Impact Assessment

How to Identify the objectives and indicators?

- Derived from the Organizational Mission and Vision .

- Brainstorming on problems and solutions, focussing at organizational objectives

- Determination of indicators of the objectives workers can have an influence on.
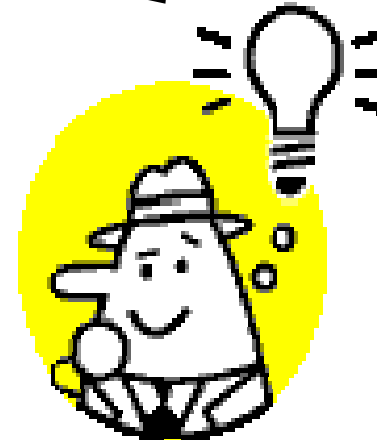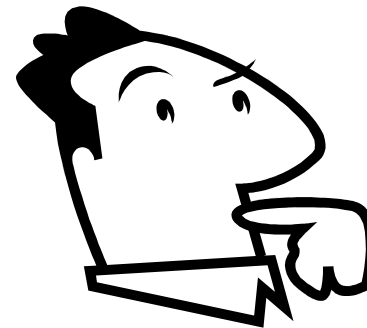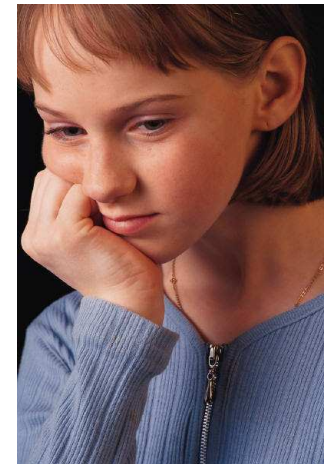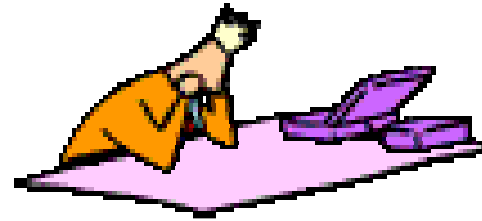
Enterprise 'X'

General Objective:	Reduce costs
Specific Objective:	Reduce idle time in milling
Indicator:	Idle time lost through bad operations
Measurement Unit:	Minutes

Conversion Graph

Indicator

Effectiveness

100

0

-100

Eficiency

Indicator		The best	Not good or bad	The worst
	Effectiveness Points	100	0	100
	Indicator value			

	The worst	Not good or bad	The best
Effectiveness	-100	0	100
Idle time (Minutes)	30	10	0

Conversion Graph
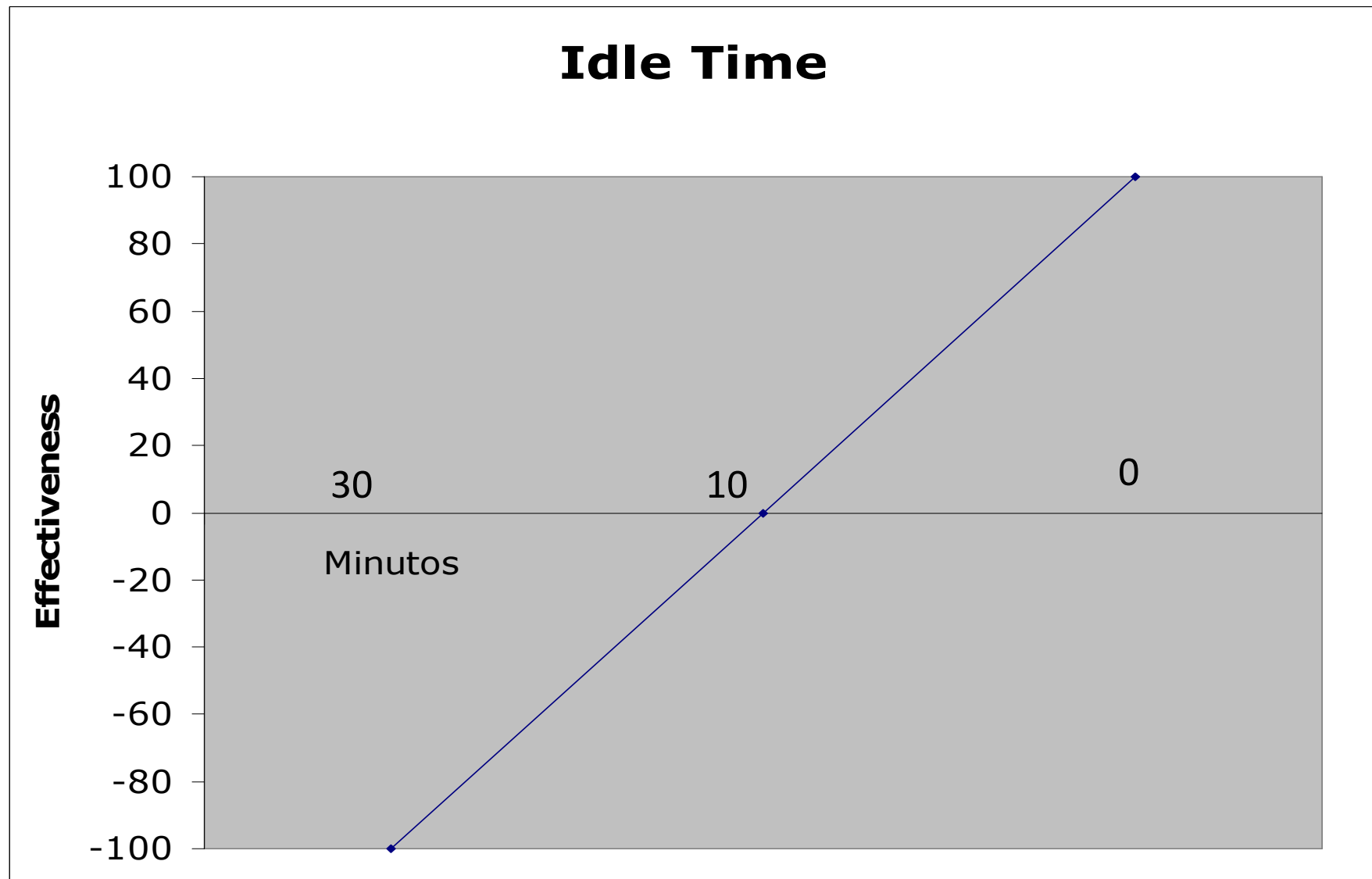
Idle Time

How are effectiveness points determined?

- **In this case the effectiveness is linear. But it is not always linear or proportional to the objective.**

- **The workers and the managers determine the points.**

Indicator Value (I.V.)	Effectiveness Points (E.P.)
0	
4	
6	
8	
10	
15	
20	
25	
30	

How are effectiveness points determined?

- **In this case the effectiveness is linear. But it is not always linear or proportional to the objective.**

- **The workers and the managers determine the points.**

Indicator Value (I.V.)	Effectiveness Points (E.P.)
0	100
4	60
6	40
8	20
10	0
15	-25
20	-50
25	-75
30	-100

	Measurement Value	Effectiveness
Monday	5	
Tuesday	1	
Wednesday	20	
Thursday	10	
Friday	5	

Sum		
Average		

	Measurement Value	Effectiveness
Monday	5	50
Tuesday	1	90
Wednesday	20	-50
Thursday	10	0
Friday	5	50

Sum		140
Average		28

Example: Effectiveness Table - Daily

	Shift 1		Shift 2	
Week: 1				
Indicator: Idle Time				
Unit: Minutes				
	Value	**Effectiveness**	**Value**	**Effectiveness**
Monday	5	50	0	100
Tuesday	1	90	5	50
Wednesday	20	-50	25	-75
Thursday	10	0	6	40
Friday	5	50	5	50
TOTAL		140		165
Average		28		33

Example: Effectiveness Table - Weekly

IDLE TIME		
EFFECTIVENESS POINTS		
Week	Shift 1	Shift 2
1	28	33
2	45	58
3	38	22
4	52	67
5	..	..
6	..	..
..	..	..
..	..	..
Real Total	163	180
Maximum possible total 4 weeks	400	400
% achievement	41%	45%

Idle Time
Total Partial Effectiveness
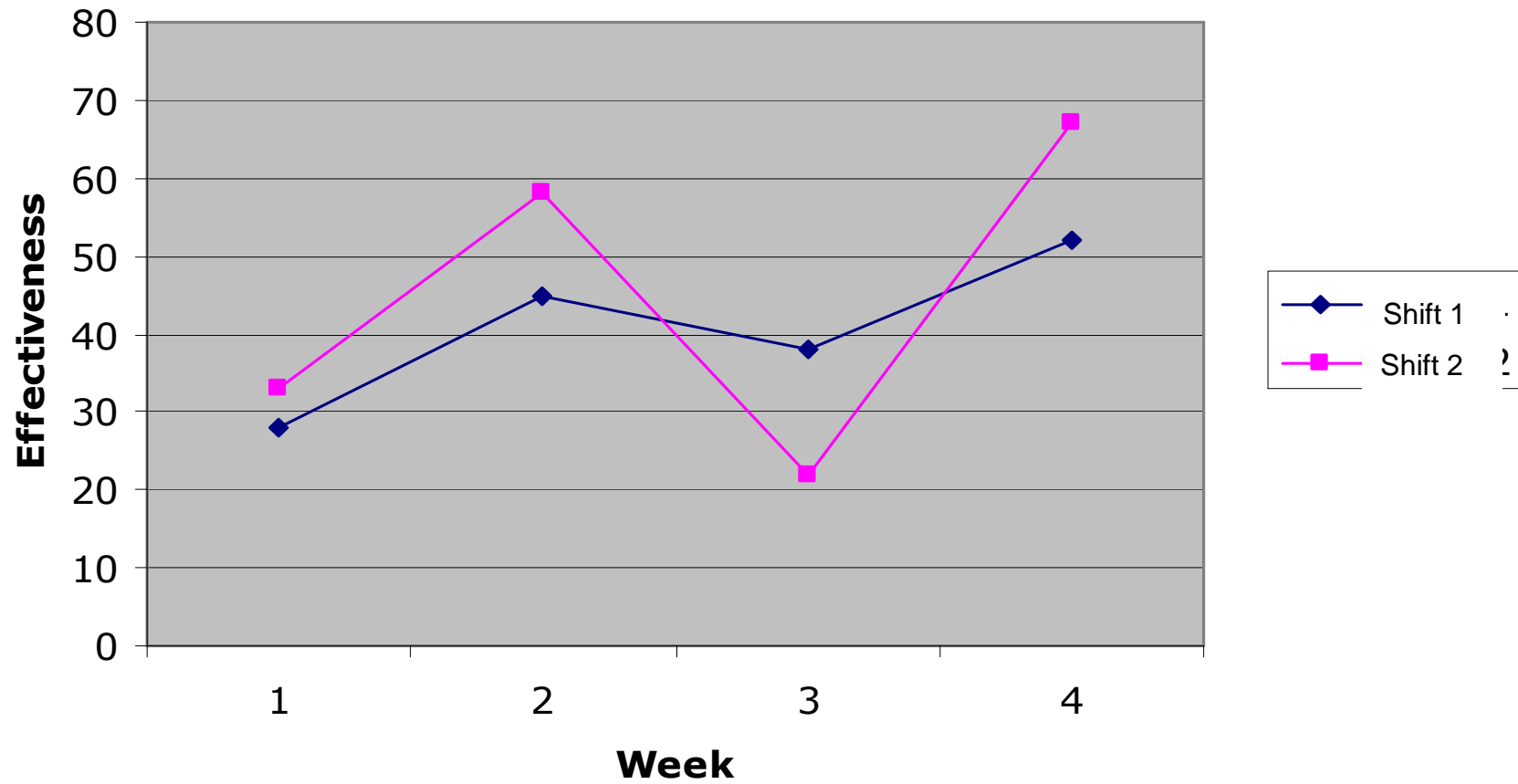
CHECK LIST: POINTS TO COMPLY WITH

- No smoking in work areas
- No chewing gum in work areas
- No eating in work areas (peanuts, seeds)
- No spitting near work areas
- No wearing rings or wathes in work areas (process)
- Keep lockers clean
- No glass objects in work areas
- No aluminium objects in work areas
- No rubbish on floors or equipment (steel wool, papers, etc.)
- No metal waste (nuts, screws, tubes, etc.)
- Clean bathrooms (toilet bowl, washbasin, toilet paper, dryfloor)

T O T A L S

Example

Enterprise 'X'				
Matrix of Indicators and Effectiveness				
Effectiveness Points		-100	0	100
Production Area				
Indicator	Unit of Measurement			
Idle Time	Minutes per shift	30	10	0
Rejects	% defective per shift	15	10	5
Wear safety equipment	Number people without equip/shift	3	1	0
Cleanliness and order	Observation list/shift	4	6	8
Absenteeism	People absent per shift	2	1	0

Excercise: Shift 1

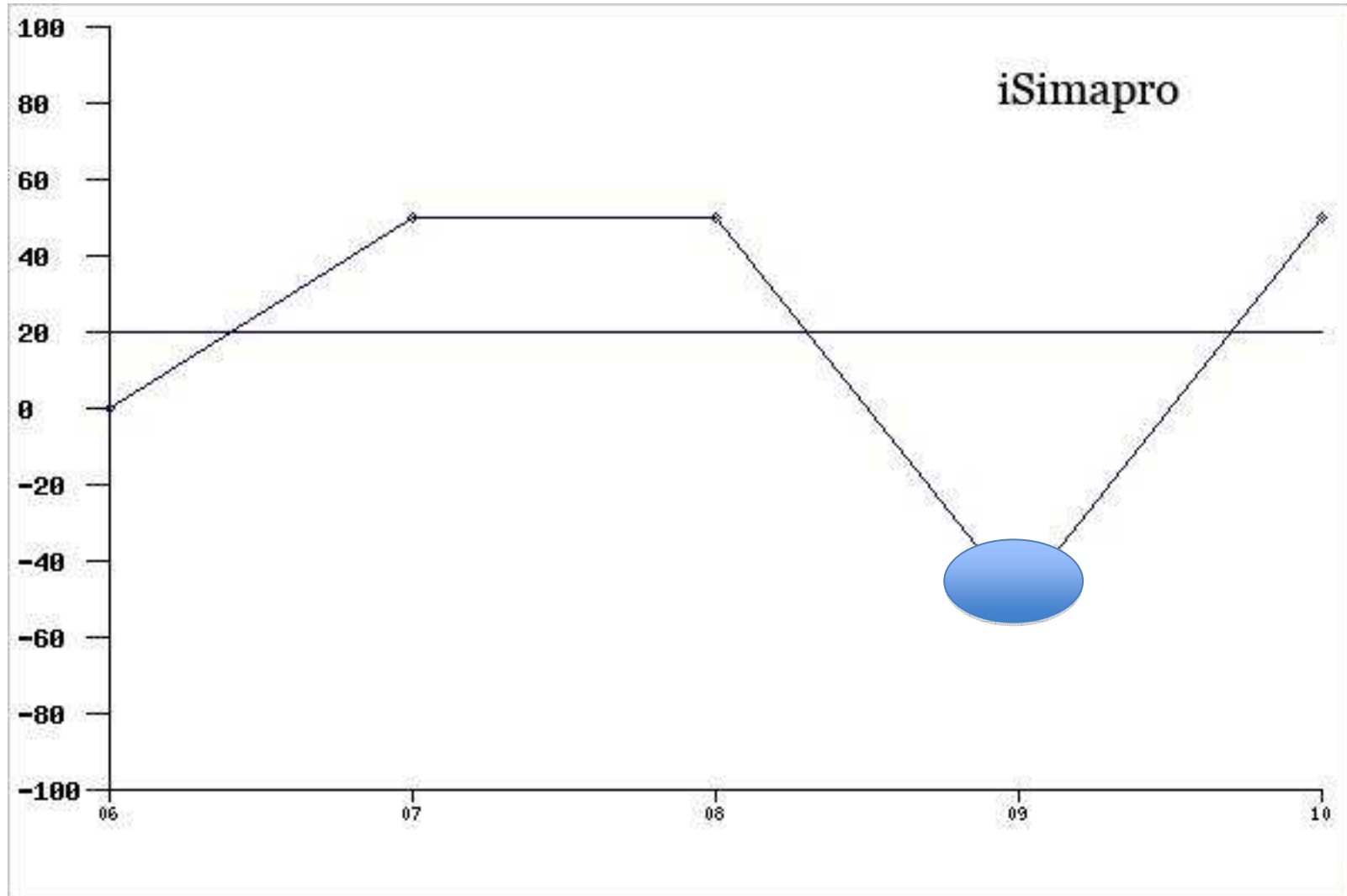|	Idle Time	Rework	Use of H&S Equipment	Clean and Order	Absenteeism
l	5	6	0	6	0
m	10	7	1	7	1
m	2	11	2	7	0
j	4	6	0	5	0
v	15	7	1	7	1

Daily Total Effectiveness
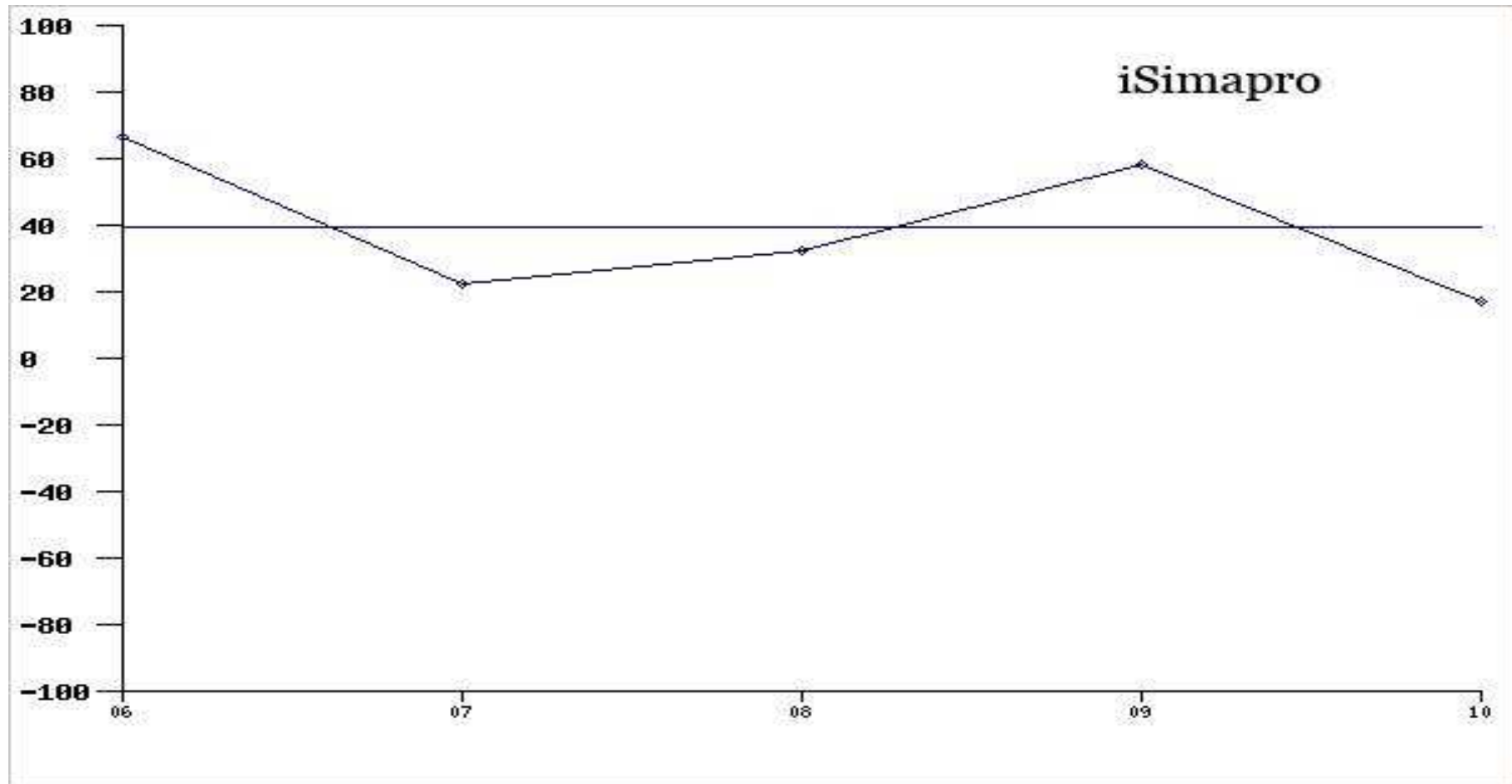
Absenteeism
Clean and Order
PPE
Rework
Idle Time
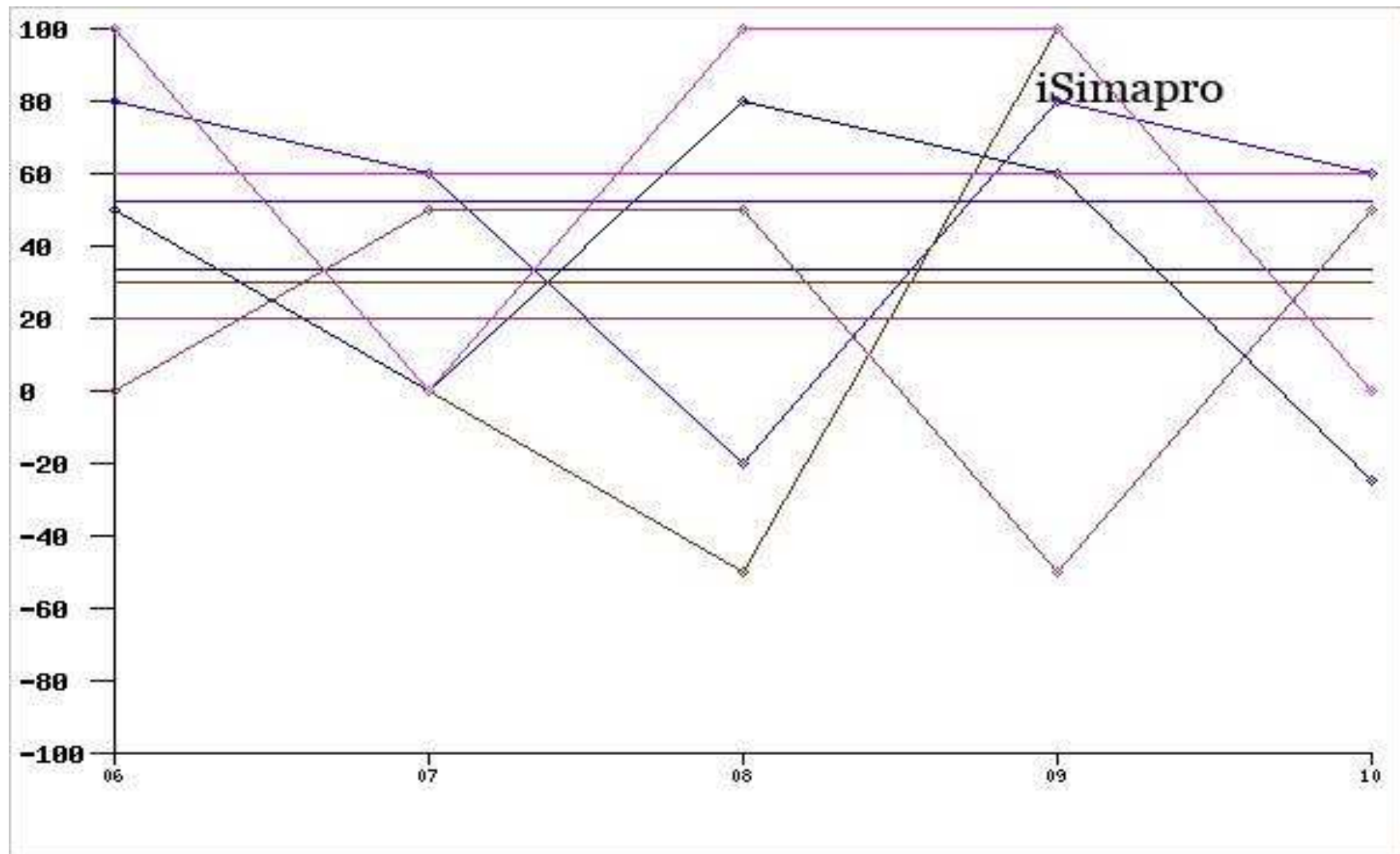
Absenteeism
Clean and Order
PPE
Rework
Idle Time
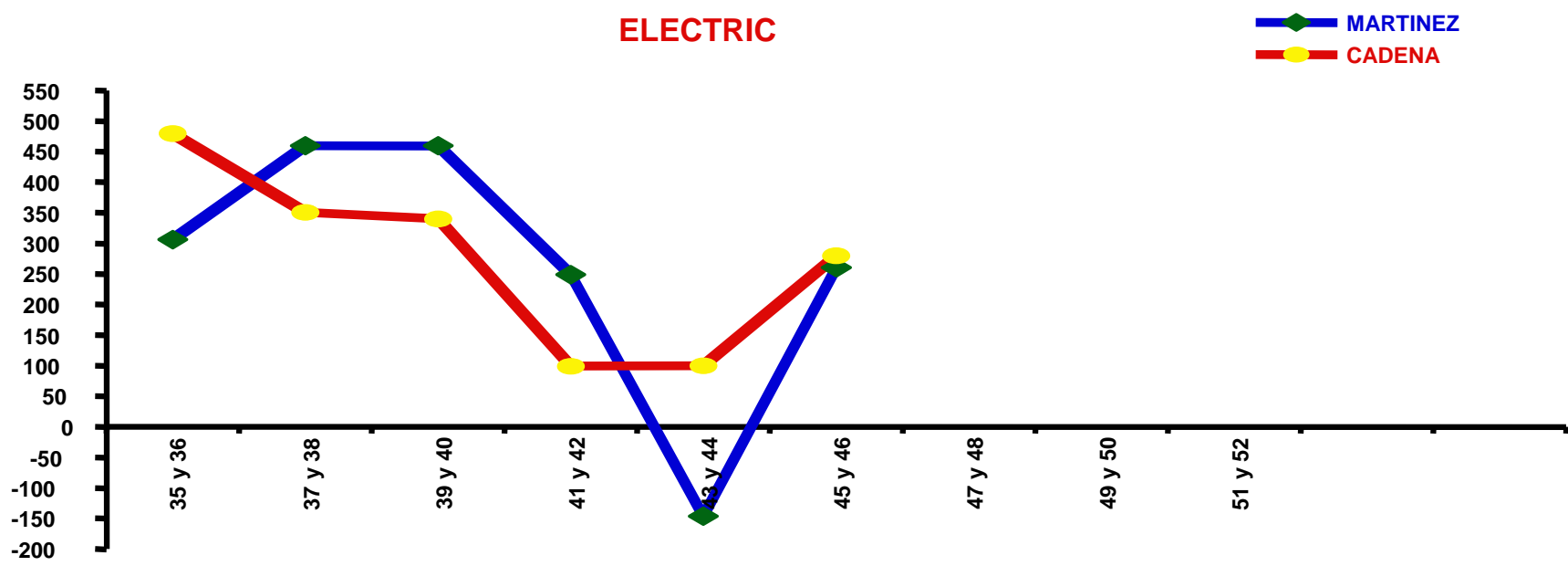
Effectiveness Clean and Order

Total Effectiveness

SHIFTS

Total Effectiveness

ELECTRIC

WEEKS	MARTINEZ	CADENA
31 y 32	306.00	480.00
33 y 34	460.00	351.00
35 y 36	460.00	340.00
37 y 38	249.00	99.00
39 y 40	-146.00	100.00
41 y 42	260.00	280.00
43 y 44		
45 y 46		
47 y 48		
49 y 50		
51 y 52		
AVERAGE	264.83	275.00

Thank you