ICA40 Industry 4.0 Framework

QRQC

- ✓Provide training how to read, collect, write, understand, analyse and set standard and the threshold for key process parameters control.
- ✓Build a data-driven working culture and quality culture with quick response reactivity towards non-conformity/ abnormality in production.
- ✓Develop prompt and effective action plans.
- ✓Preparation for real-time monitoring of manufacturing key performance indicators
  quality, cost, delivery, morality, sustainability & safety.

PRESS THE BUTTON

QUICK RESPONSE QUALITY CULTURE (QRQC)

CONTENTS

1. SAN GEN SHU GI

2. 5W2H

3. QRQC

4. QRAP

5. FACTOR TREE ANALYSIS (FTA) – 5 WHY’s

Quality

QRQC: Quick Response Quality Culture

三　現　主　義
SAN GEN SHU GI

It takes its roots from the San Gen Shugi

QRQC is a Quality Culture which allows to response immediately towards the problems solving as the common practices.

QRQC is supported by PDCA methodology and application of tools of 5W2H:

1) What Happened?
2) Why Is It A Problem?
3) When Detected?
4) Who Detected?
5) Where Detected?
6) How Detected?
7) How Many Bad Parts?

Understanding of SAN GEN SHU GI

三　現　主　義

SAN GEN SHU GI

is a common-sense, practical approach for problem solving with scientific analysis based on three realistic ideology.

SAN means Three

GEN means Real

SHUGI means Ideology or Culture

It can be summarized as:

Understand what is really happening, go to the real place when it's happening and check out the real item.

What is GEN BA (現場)?

Gen Ba is

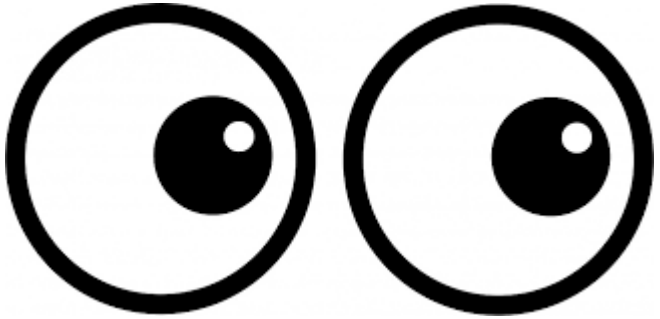
- ✔ The PLACE where the problem happened
- ✔ The MOMENT when the problem happened
- ✔ The PEOPLE who witness when the problem happened

Do you always go to Gen Ba?

Attitude:

- ✔ Do you use your legs and your eyes?
- ✔ Do you interview actors of problem?
- ✔ Are you able to be where it happens, when it happens?

Benefits:



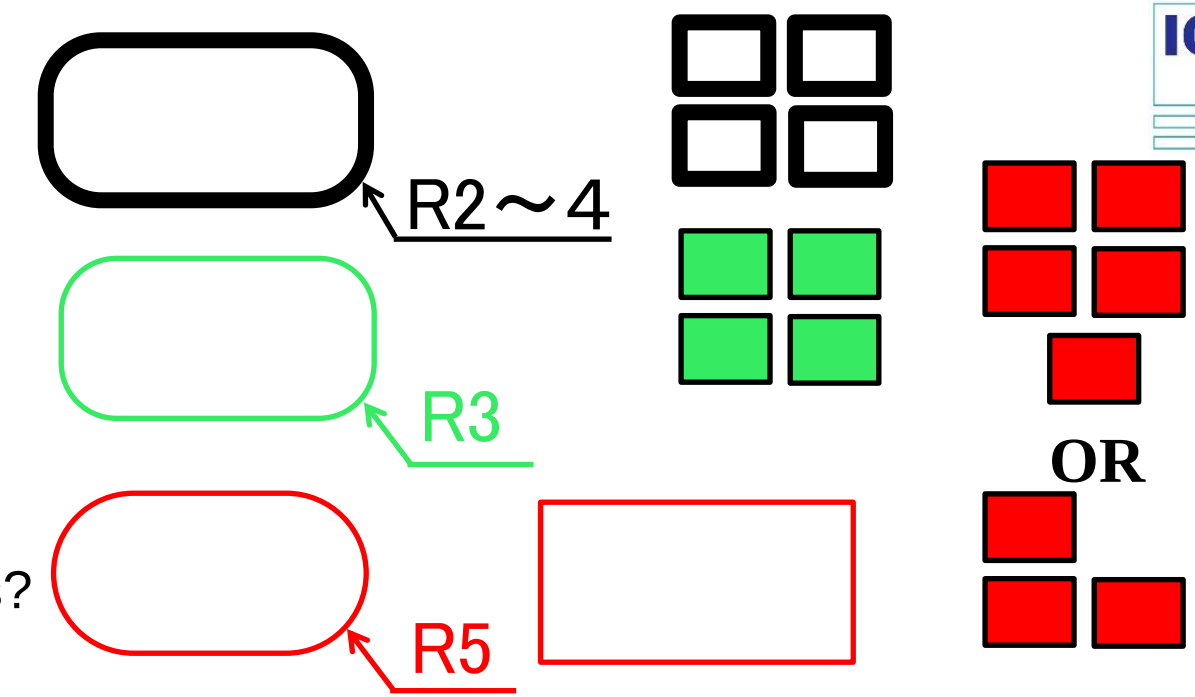
- ✔ No imagination
- ✔ Observe to understand
- ✔ To be able to analyze
- ✔ Capture the reality

What is GEN BUTSU (現物)?

Real Part

Gen Butsu is

- ✔ Good (Part / Condition / Situation…)
- ✔ Bad (Part / Condition / Situation…)
- ✔ vs Standard



Do you always have Gen Butsu in your hands?

Attitude:

- ✔ Do you compare good and bad (parts, situation…) versus standard?

25℃±5℃

20℃～30℃

19℃, 31℃ 24℃, 25℃

Benefits:

- ✔ Detect differences
- ✔ Detect deviations to standard to Identify relevant factor

WEEK: WK16
RESULTS: 9/10

Management vs Operator

What is GEN JITSU (現実)?

Gen Jitsu is

- ✔ FACT and DATA

Do you always speak with data and evidence?

Attitude:

- ✔ Can you speak with facts and data?
- ✔ Do you request evidences and data?
- ✔ Forbid words such as “ I think, I believe, perhaps…”

Benefits:

- ✔ Be accurate
- ✔ Be convinced and be convincing
- ✔ Gain time

MAIN FOCUS OF SAN GEN SHU GI (三現主義）

DATA

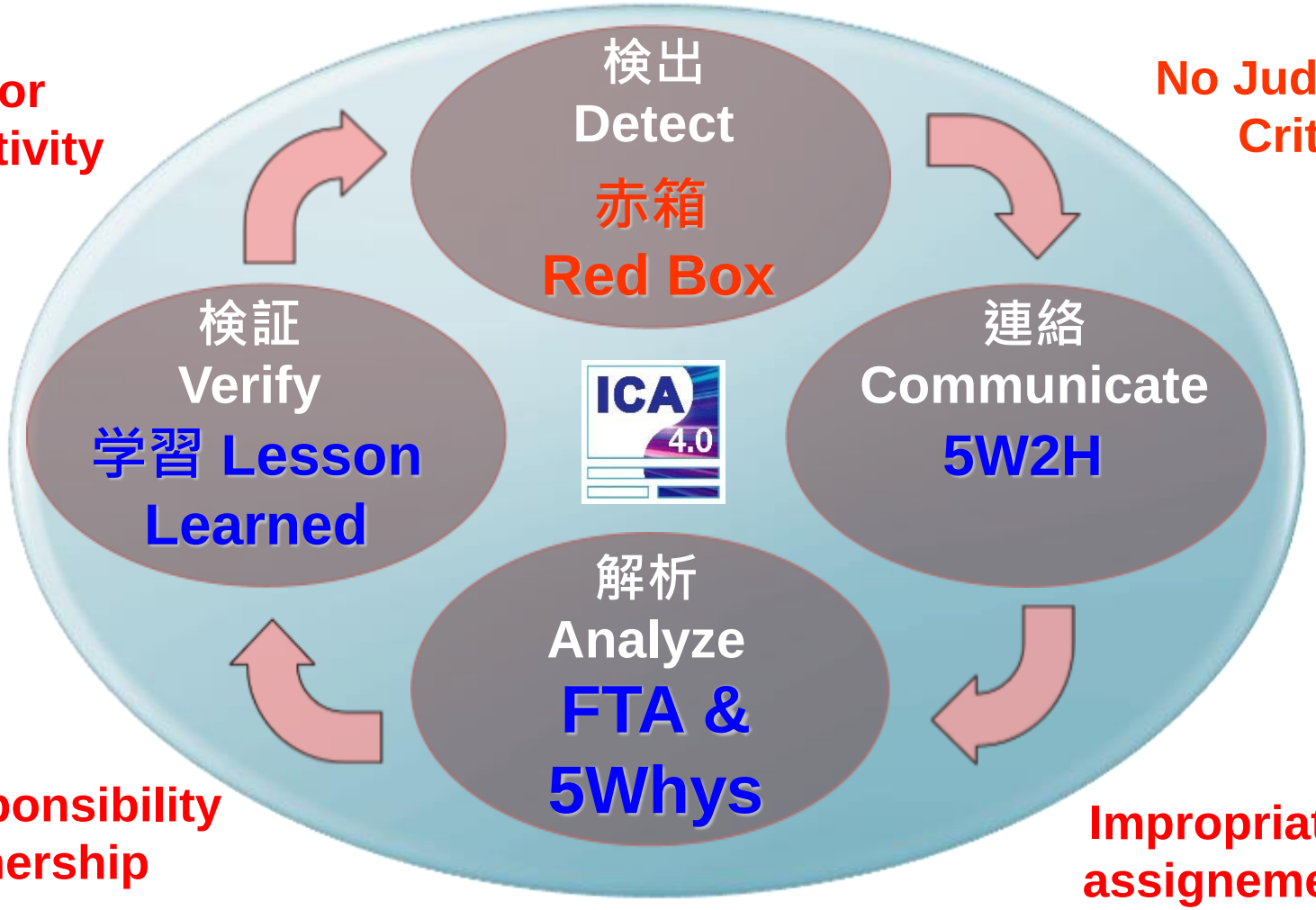
- ✔ Reduce Issue with DATA?
- ✔ Communicate with DATA?
- ✔ Make Decision with DATA?

STRENGTHENING OUR QUALITY FOUNDATION
私たちの品質基礎の強化

Incorrect/ No Data

Poor Reactivity

No Judgement Criteria



No Responsibility /Ownership

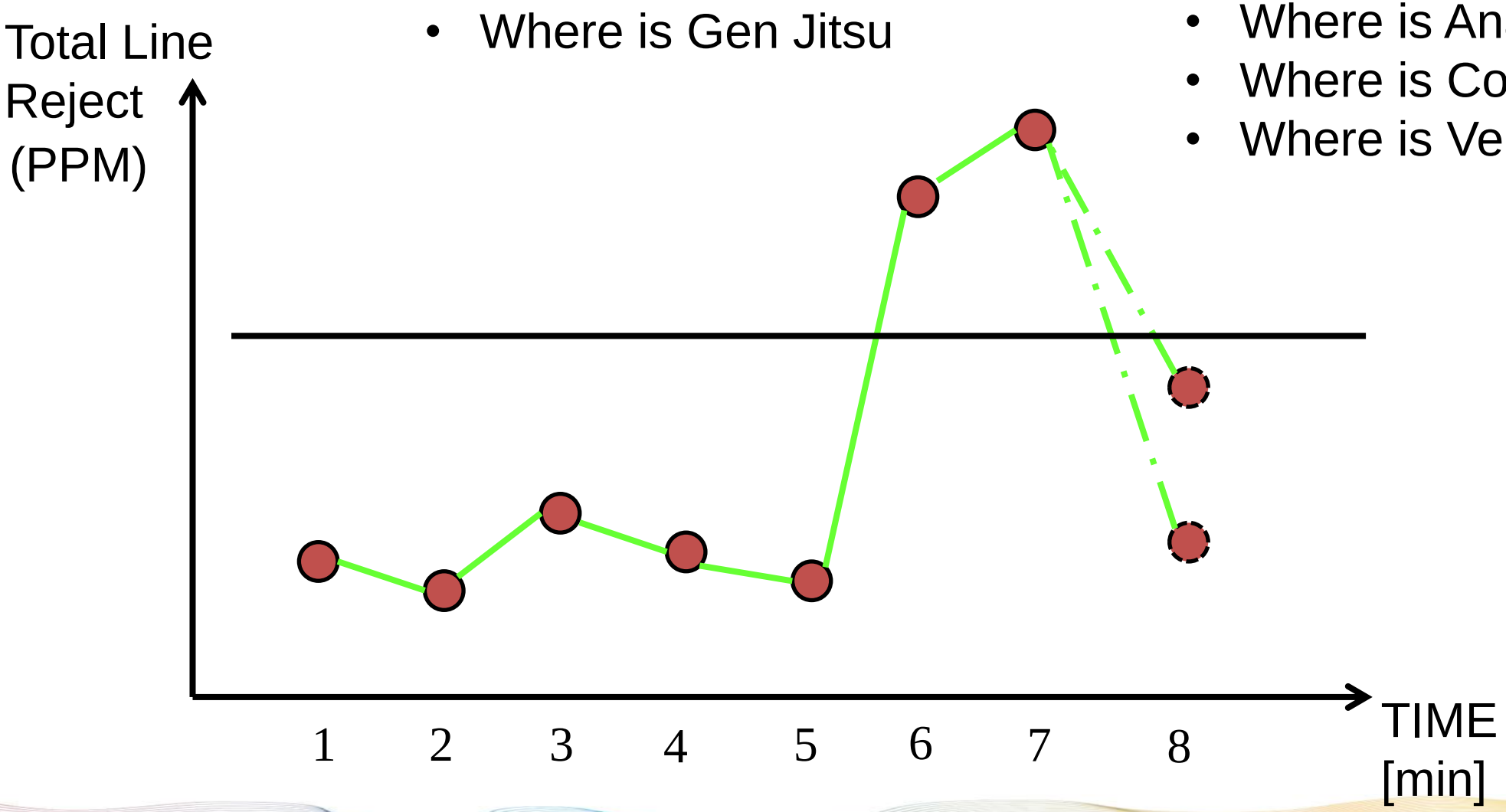
Impropriated assignement

PDCA Methodology方法論

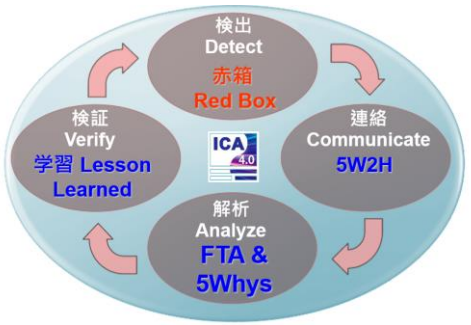
Defining Data with SAN GEN SHU GI

- Where is Gen ba?
- Where is Gen butsu?
- Where is Gen Jitsu

- Where is Detection?
- Where is Communication?
- Where is Analysis
- Where is Countermeasure?
- Where is Verification?



Define Data with SAN GEN SHU GI



Total Line Reject [PPM]

Gen Jitsu (Real Data)

Gen Butsu

Gen Ba

Detection

Communication & Analysis

Countermeasure

Verification

Countermeasure is not enough effective to be back to GOOD. May be other root cause.

Countermeasure is effective.

Time [min]

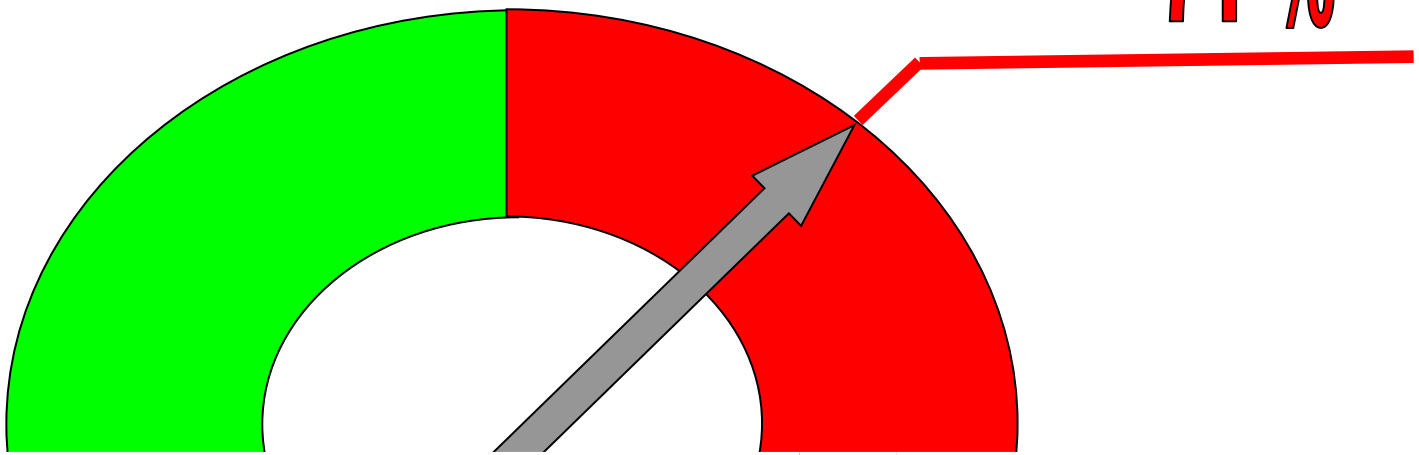
CHOICE of INDICATORS

TYPES	Q Quality	C Cost	D Delivery	M Motivation
Indicator (units)	Defect rate [PPM]	Productivity [pcs/min]	Change Time [min]	KAIZEN [items/month]
Indicator (units)	Line Reject rate [PPM]	Global Output [%]	Service Rate [%]	Accident-Free Period [case/month]

DAILY INDICATOR

D

≦ 85 %



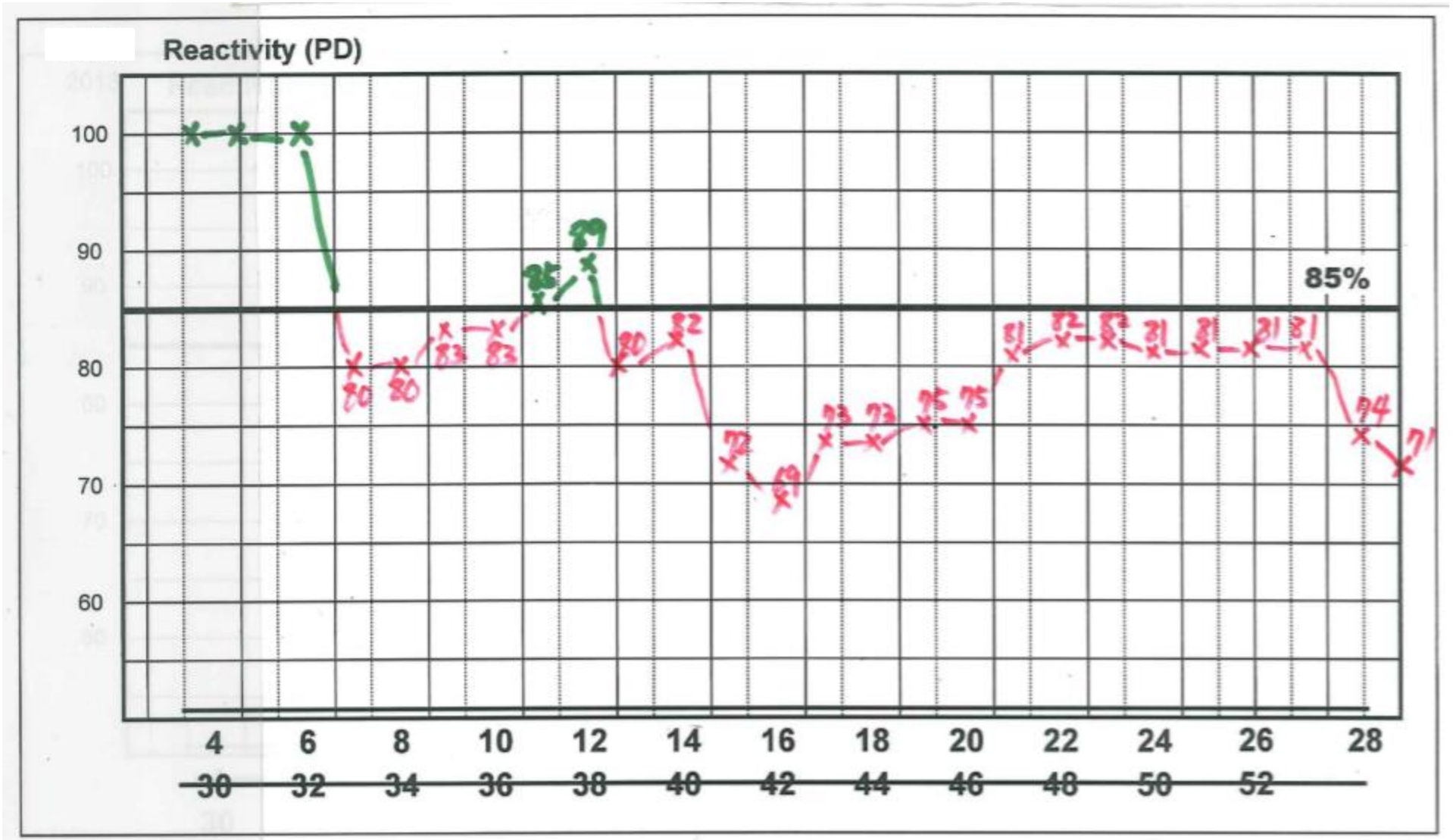
Reactivity QR < 24hrs

WEEKLY PERFORMANCE

MONTH/YEAR: JAN 2016

	MON	TUE	WED	THU	FRI	SAT	SUN	AVE
W1	N/P	N/P	N/P	100%	100%	100%	N/P	100%
W2	100%	100%	100%	100%	100%	100%	N/P	100%
W3	100%	100%	100%	100%	N/P	N/P	N/P	100%
W4	60%	70%	80%	50%	80%	80%	N/P	70%
W5	70%	80%	90%	60%	90%	90%	N/P	80%

HALF YEAR PERFORMANCE



Let’s set the KPIs?

- Individual
- Work station
- Production line
- Section
- Department