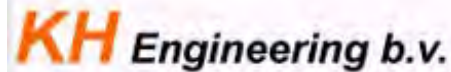


31st Annual European AIChE Seminar - April 23rd 2015

Excellence in Process Safety

Consequences for design, engineering, commissioning and operation



BiFINGER



ALARM MANAGEMENT

Remco Deerenberg, Innovation Coordinator

ALARM MANAGEMENT



ALARM MANAGEMENT

TODAY'S SITUATION

Open Alarm Viewer

Catastrophic
 Critical
 High
 Medium
 Low
 Selected
 Acknowledged

Home Refresh ? Help X Exit JAVED (Role)
Acknowledge Global Ack Delete Delete All Tue Jun 02 09:22:58 GMT+05:00 2009

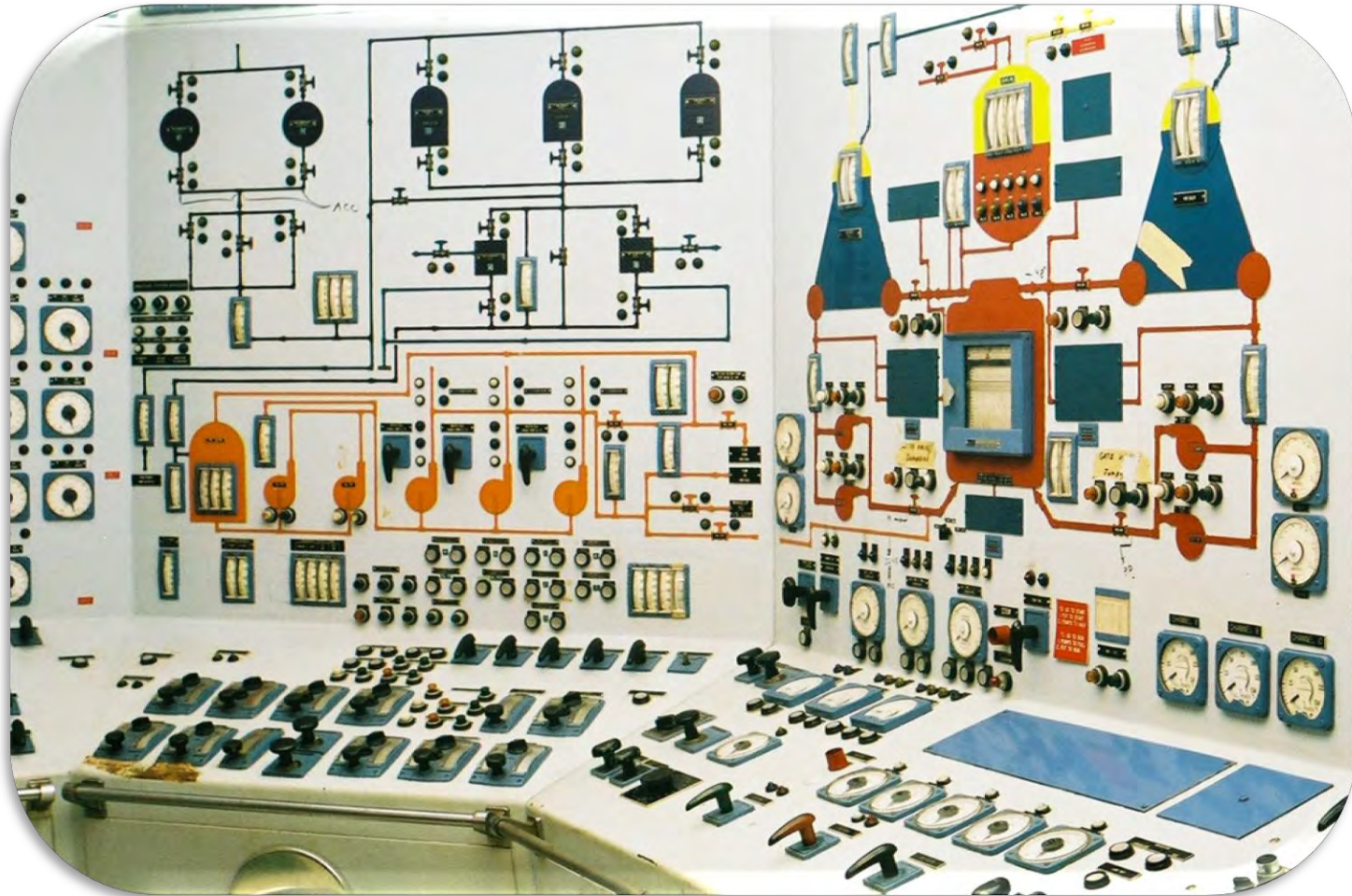
Alarm Viewer

Recent Alarms Historical Alarms

Date/Time	Type	Name	Tag Name	Value/Diff	Severity	Quality	Message	Acknowledgem...
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ALARM MANAGEMENT

HOW DID WE LET IT GET TO THIS?



ALARM MANAGEMENT

HOW DID WE LET IT GET TO THIS?



ALARM MANAGEMENT

SEVERAL ALARM EVENTS PER TRANSMITTER



ALARM MANAGEMENT

DO YOU COMPLY WITH

- EEMUA 191 guideline
- IEC 62682
- ISA S-18.2



ALARM MANAGEMENT

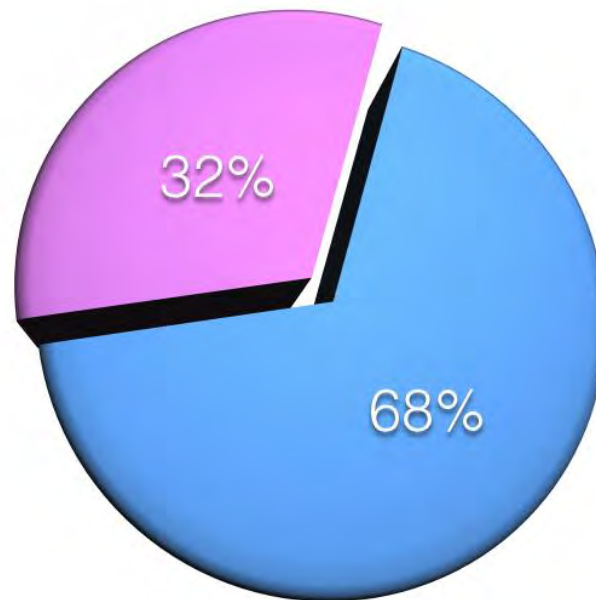
BAD ALARM MANAGEMENT CAN LEAD TO

- ✓ Unscheduled down time;
- ✓ Unscheduled loss of manufacturing lead time;
- ✓ Damaged products;
- ✓ Damages to equipment of personnel;
- ✓ Unsafe work situations.



ALARM OVERLOAD NEGATIVELY AFFECTS PROCESS OPERATION

- A survey by Automation World revealed that 68% of respondents indicate that alarm overload negatively affects their ability to properly operate the process.



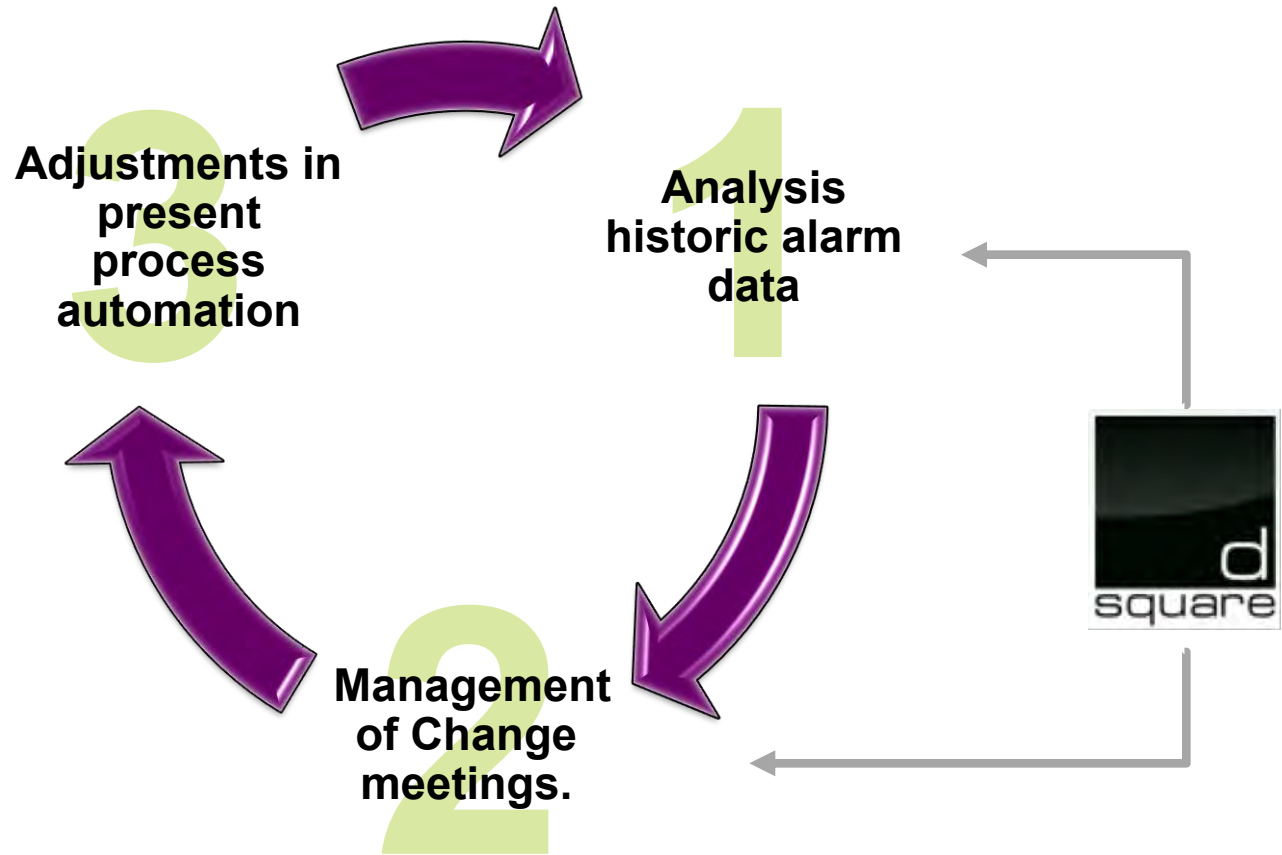
SPECIALISM

ALARM MANAGEMENT

- Do your operators often have to deal with 'Alarm Overload'?
- What are the consequences of a critical alarm that was missed?
- Do your systems meet the EEMUA 191 guidelines?
 - IEC 62682 Management of alarm systems for the process industries (release 19-10-2014).
 - ISA S-18.

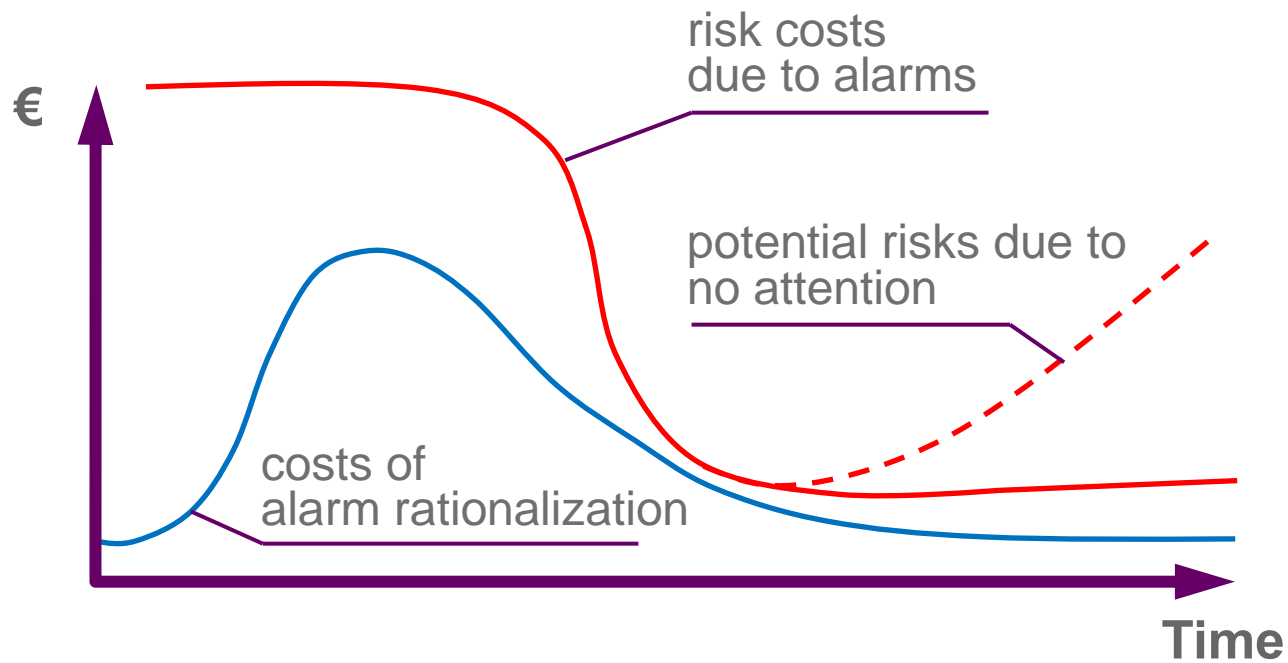
ALARM MANAGEMENT

WHAT IS THE CROON APPROACH?



ALARM MANAGEMENT

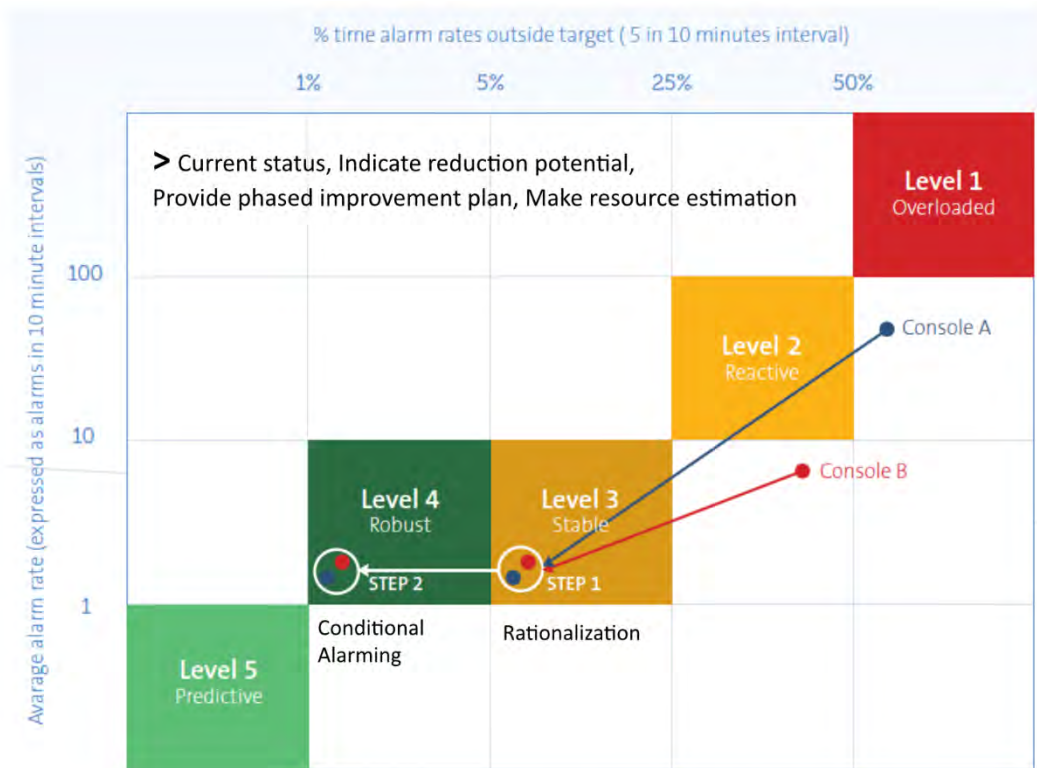
A CONTINUOUS PROCESS



ALARM MANAGEMENT

EEMUA SUMMARY

EEMUA Console A		
Average alarms per day	144	8.640
Average standing alarms	9	121
Peak alarms per 10 minutes	10	985
Average alarms / 10 minute interval	1	60
Distribution % (Low/Med/High)	80/15/5	50/30/20
% of time operator is overloaded	5 %	54 %

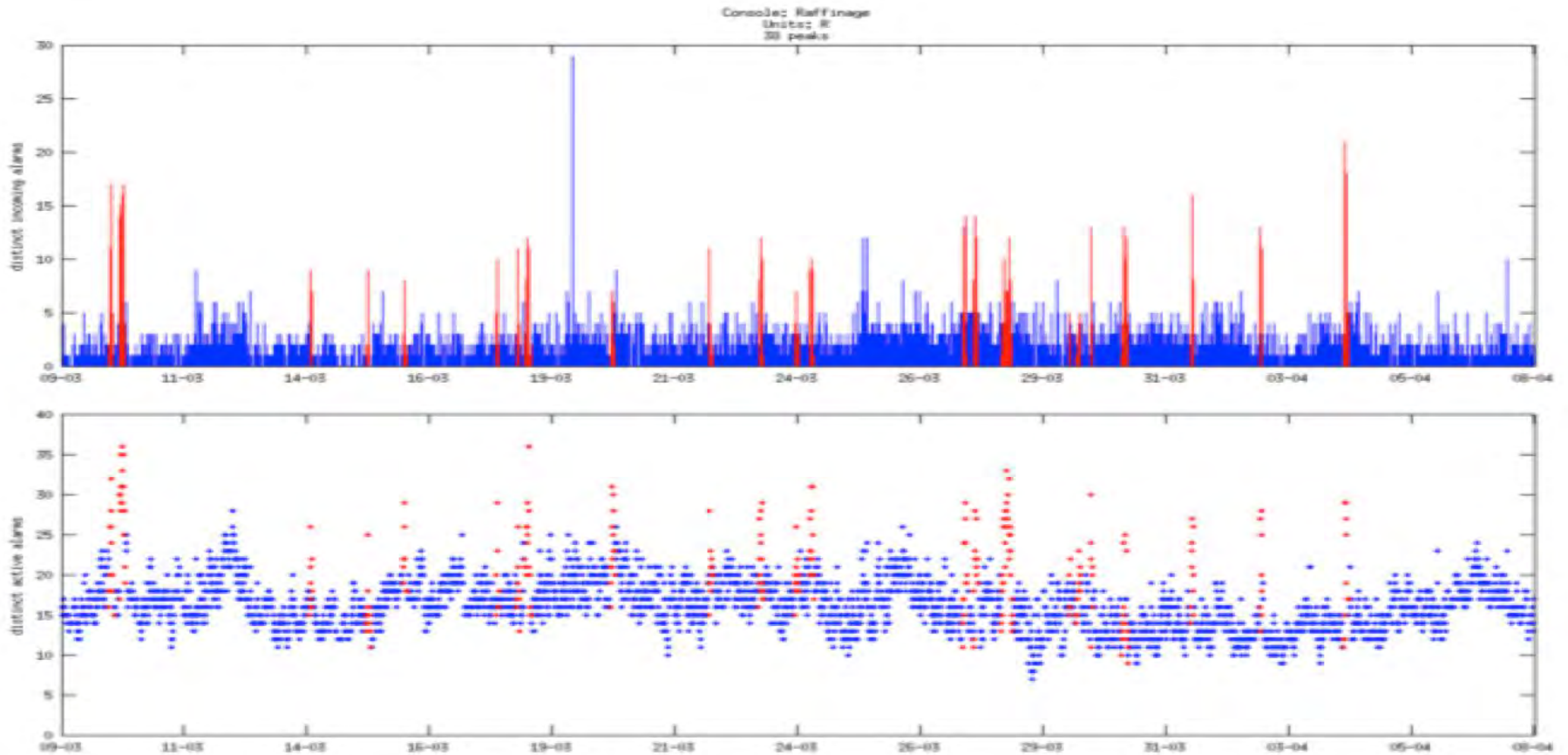


ALARM MANAGEMENT

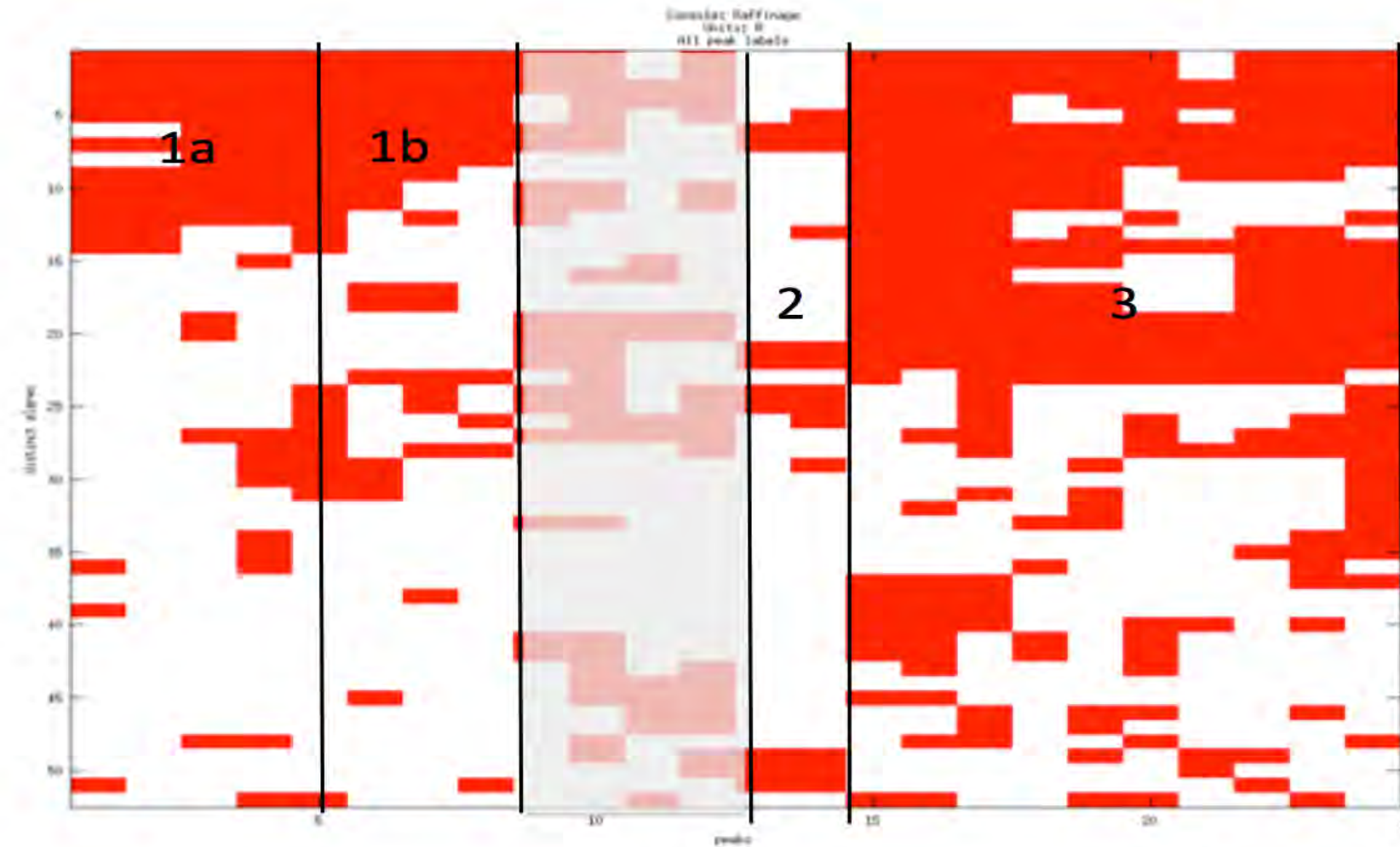
ADVANTAGES FOR YOU

- ✓ Worry-free to a very large extent
- ✓ Understanding the present situation in light of the current standards
- ✓ No extra software or licenses are necessary
- ✓ Understanding the potential for improvement
- ✓ Objective information on unnecessary alarms
- ✓ Improved ergonomics for the operator
- ✓ Increased efficiency production process

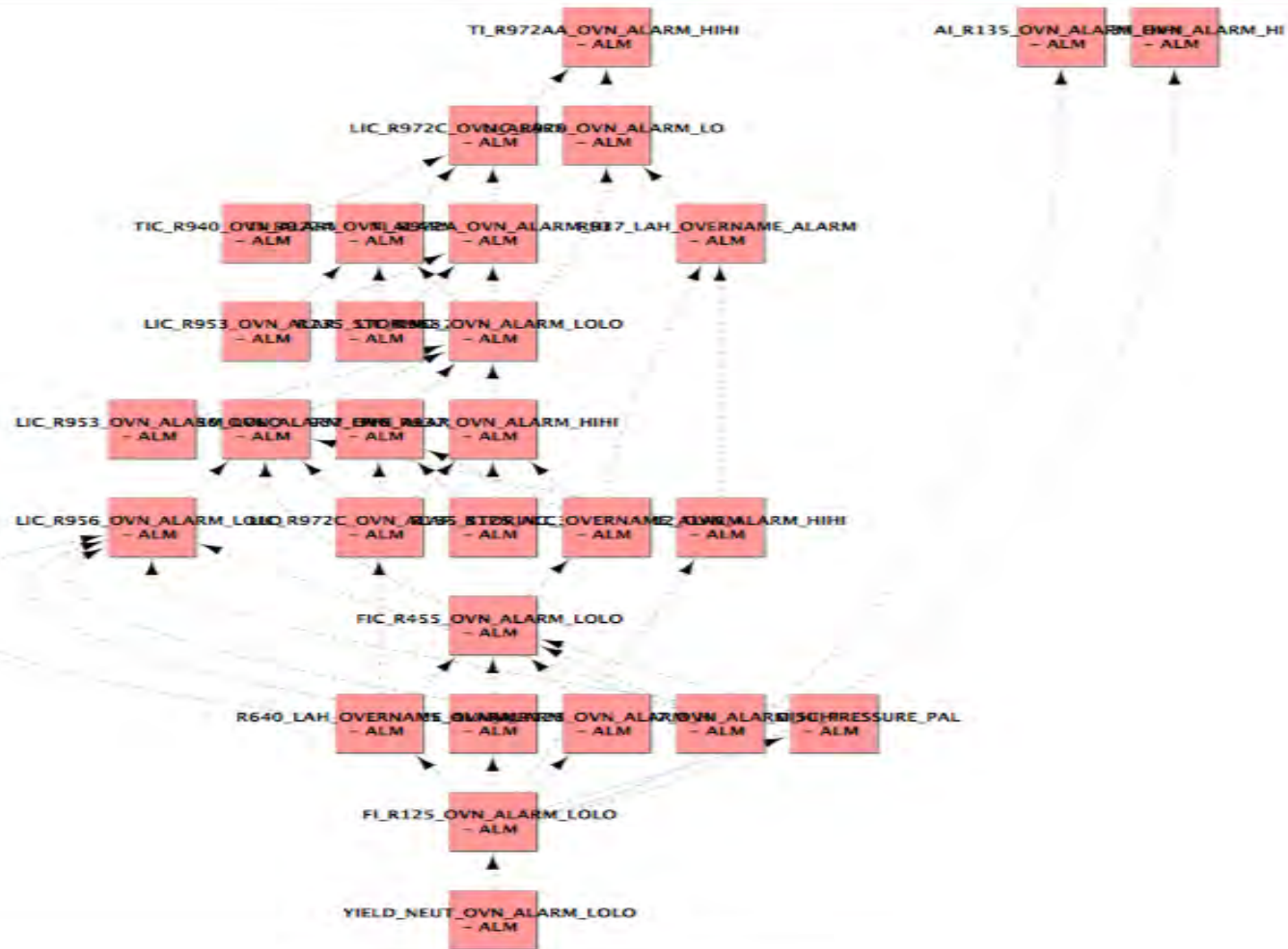
PEAK DETECTION



PEAK CLUSTERING



ALARM ORDER ANALYSIS



ALARM MANAGEMENT CROON & DSQUARE

To summarize:

- ✓ We make it easy for the client
- ✓ Fast and Efficient
- ✓ Follow IEC and EEMUA
- ✓ No other software or licences required

THANK YOU FOR LISTENING

Presentation Alarm management