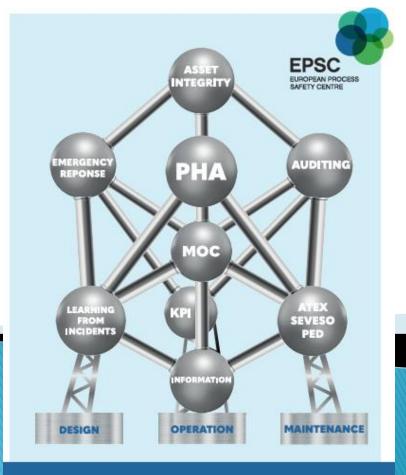
# European Practice For process safety management

Barcelona PS congress Dec 2024

Tijs Koerts Operations Director EPSC



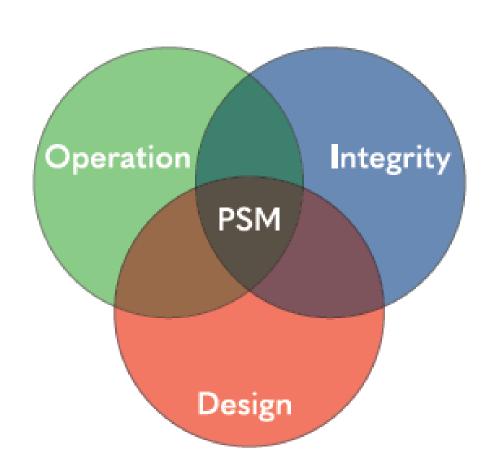
PROCESS SAFETY MANAGEMENT EUROPEAN PRACTICE



#### What is process safety about?



**Chemical Hazards** 

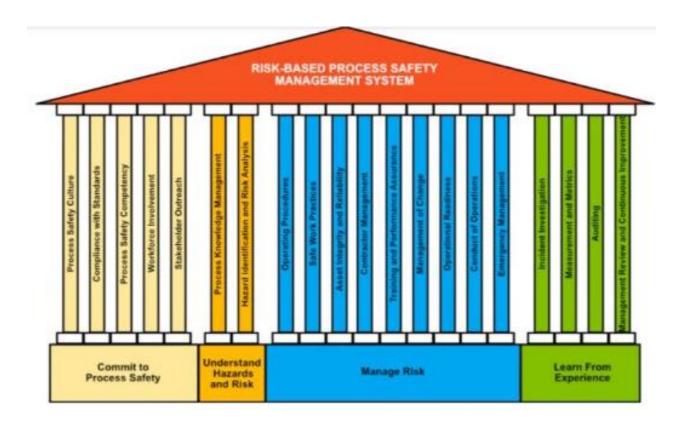


An Engineering discipline

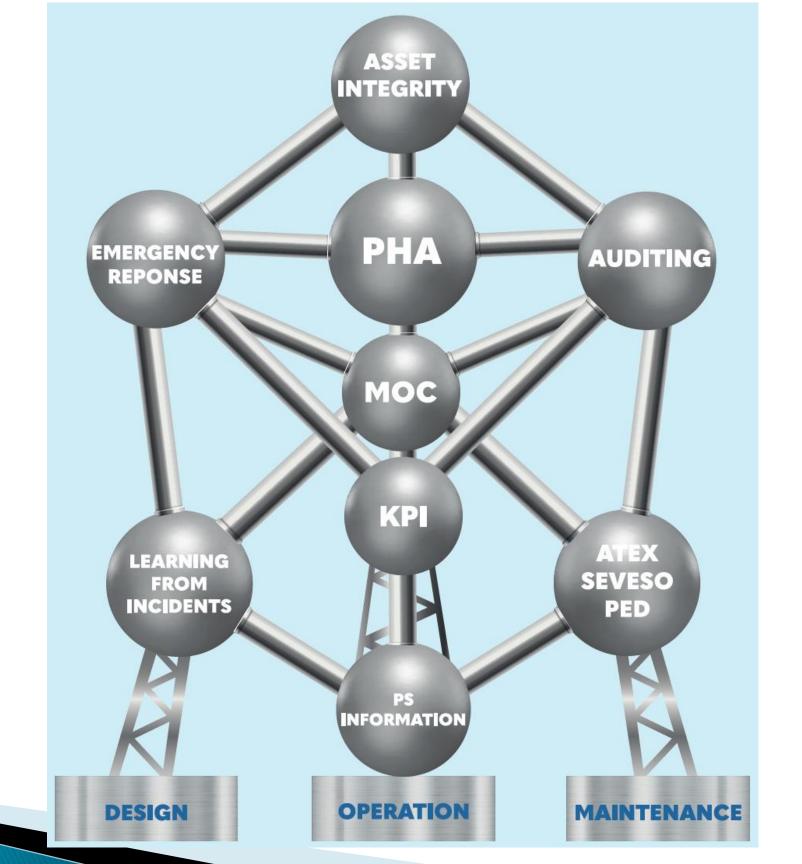
## How do we manage process safety?

What systems do you know?





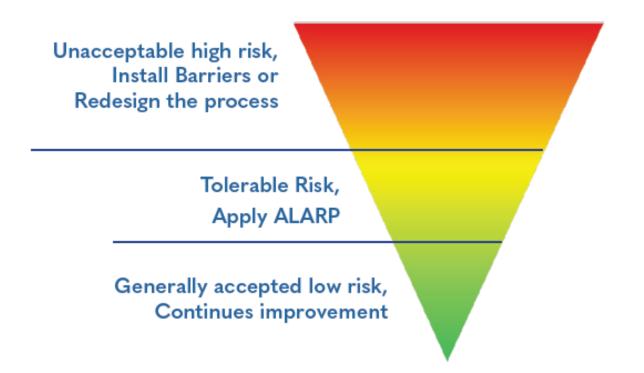
## European Practice



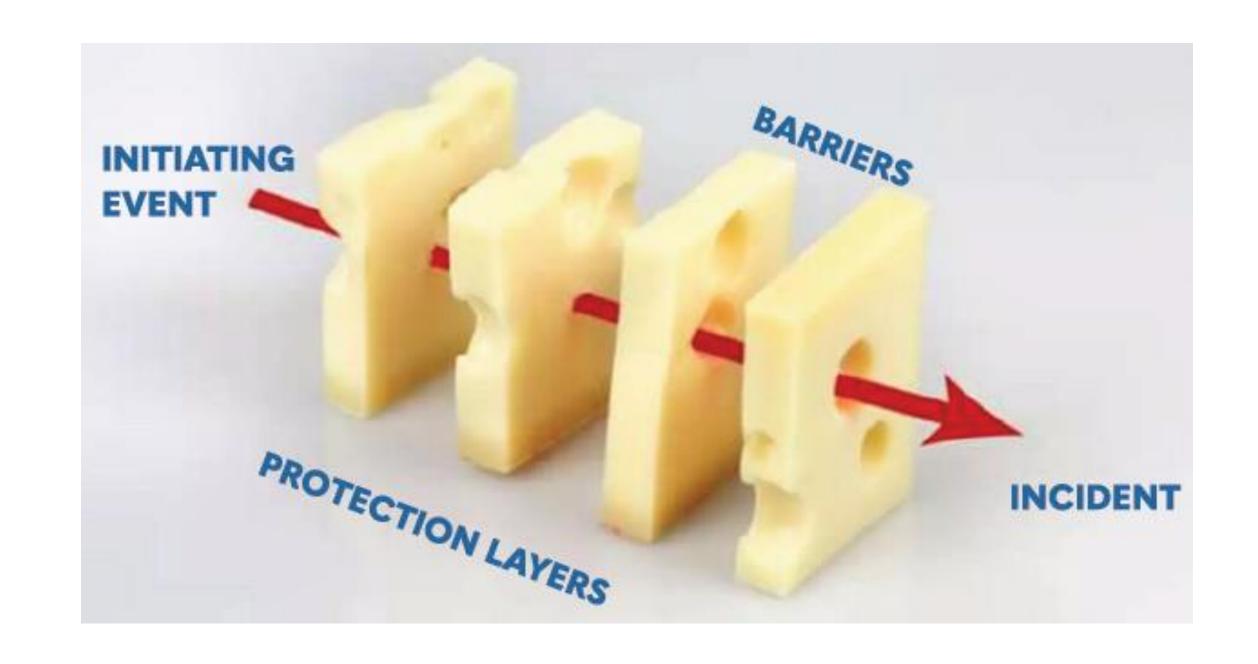
#### Risk Based versus Compliance



Risk = Consequence x Likelihood



Risk Matrix				Probability in times per year					
Consequence	Class	Safety	Enviroment	1/100.000	1/10.000	1/1000	1/100	1/10	1
	Е	Multiple fatalities, major explosion	Community evacuation, international boycot						
	D	Single fatality, Large fire	Large toxic release, site evacuation						
	С	Serious Injury, Large leak	Permit violation, Fine						
	В	Small Injury, Limited leak	Reportable spill						
	Α	Near miss, First Aid	Near miss, Low impact						



## European Legislation



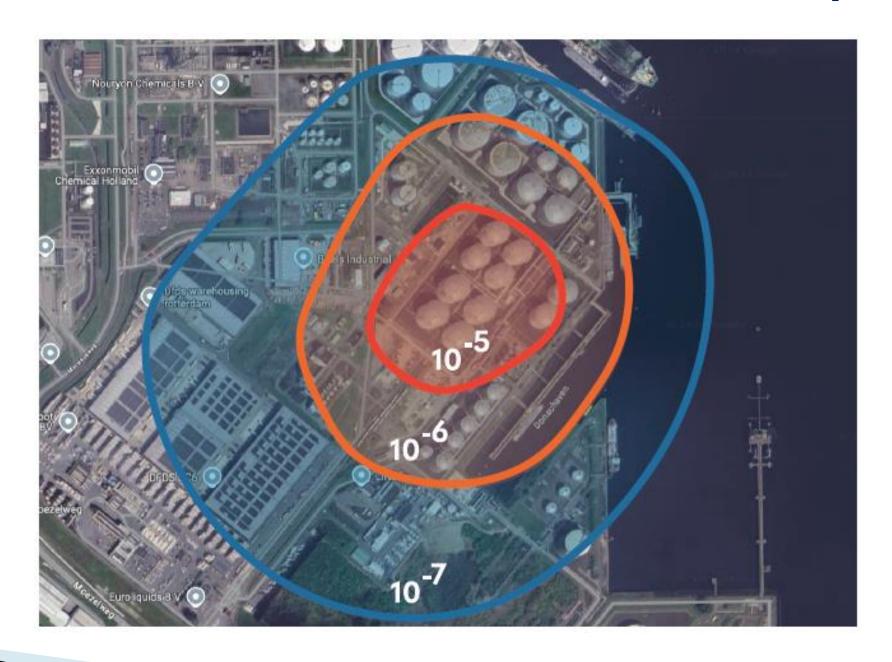






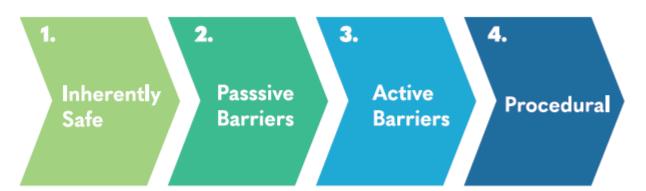


## QRA: Quantitative Risk Analysis



## European Practices

#### Inherently Safer Design



#### Process Safety Fundamentals

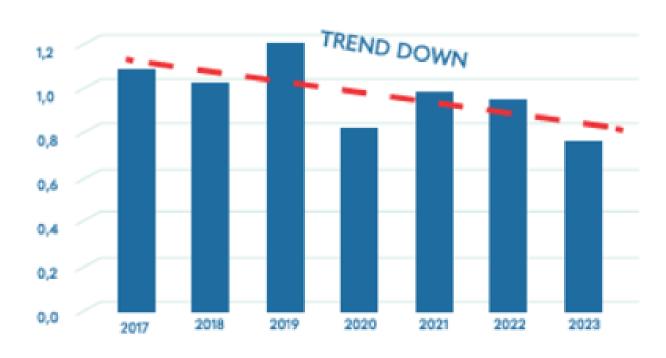


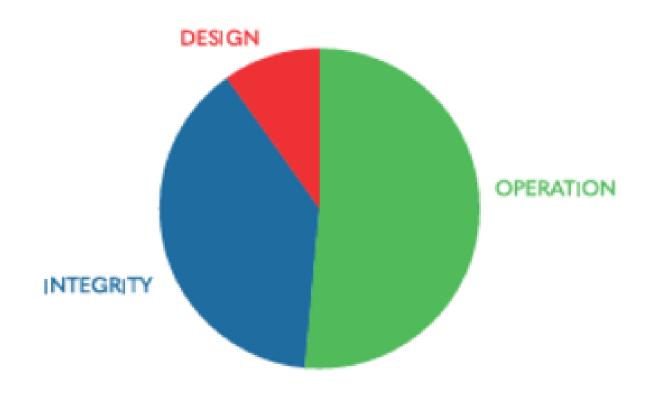
#### Culture Ladder

**GENERATIVE** Increasingly Informed (High Reliability Organizations) HSE is how we do business around here **PROACTIVE** Safety leadership and values drive continues improvement **CALCULATIVE** Increasing Trust and Accountability We have systems in palce to manage all hazards REACTIVE Safety is important, we do a lot everytime we have an accident **PATHOLOGICAL** Who cares as long as we are not caught

#### Results

#### Process Safety Incident Rate - per million hours





#### "our shared responsibility to protect"

