



**Developing your plan**  
**SELECTING OBJECTIVES,**  
**TARGETS AND INDICATORS AND**  
**PREPARE ACTION PLAN(S)**

# Selecting objectives, targets and indicators and prepare action plan(s)

A goal without a plan is just a wish.

Antoine de Saint-Exupery

## Next steps

To translate findings from risk assessment and gap analysis into indicators and actions...

- Requirements as per ZDHC CMS
- Define objectives/goals
- Select performance indicators
- Mapping critical areas
- Process and methods for preparing action plan

# Requirements as per ZDHC on performance goals and action plans

## ZDHC CMS references:

### Expected CMS Deliverable:

- Process/Plan for reducing environmental impacts (ref. CMS 2.4.2)
- Process/Plan for reducing health and safety impacts (ref. CMS 2.4.3)
- Phase out target dates and action plan for 11 priority chemical groups (ref. CMS 2.6.1)
- Best practice alternative assessment for chemicals (ref. CMS 2.6.1)



# Requirements as per ZDHC on performance goals and action plans

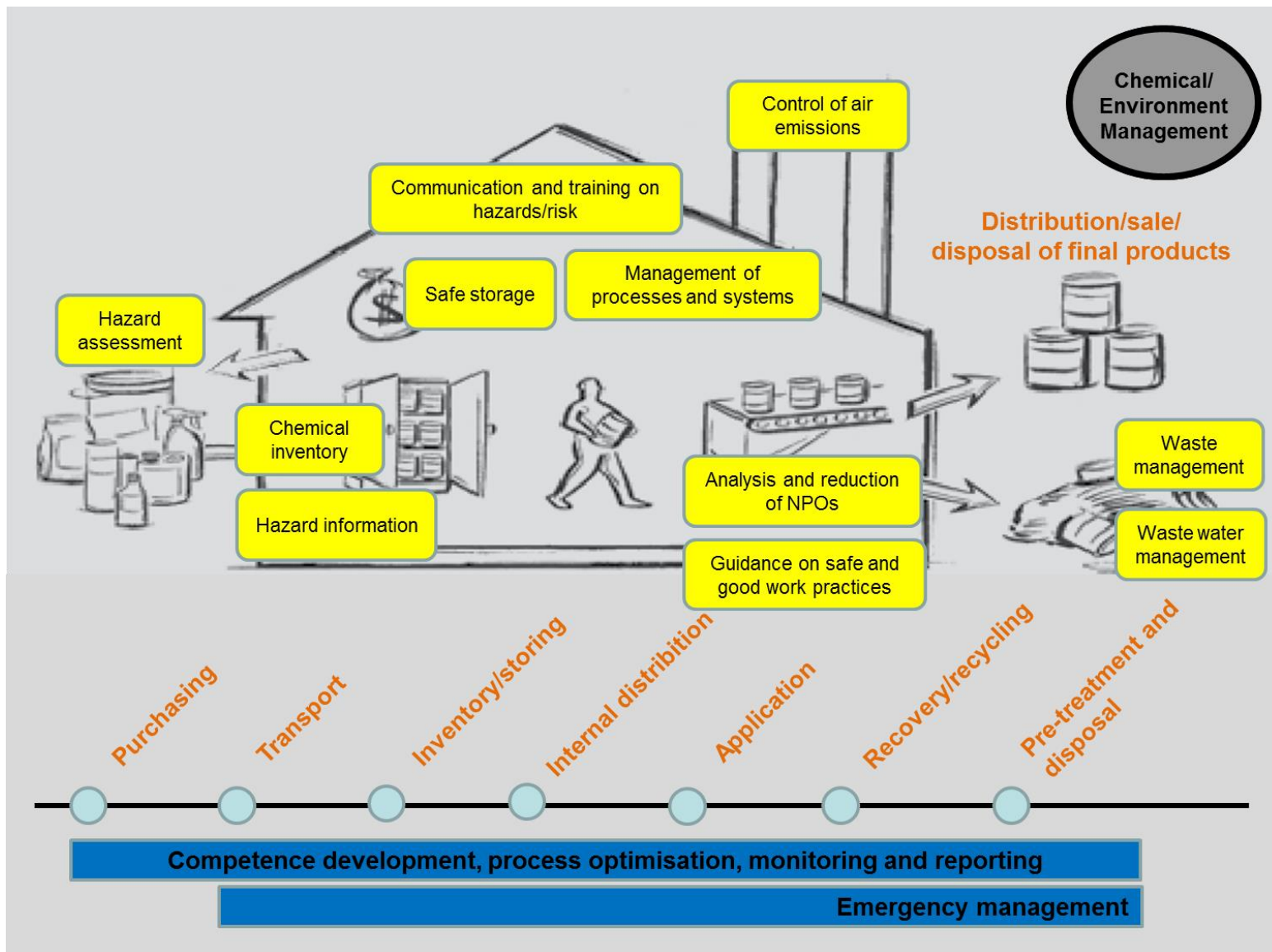
## ZDHC CMS references:

### Expected CMS Deliverable:

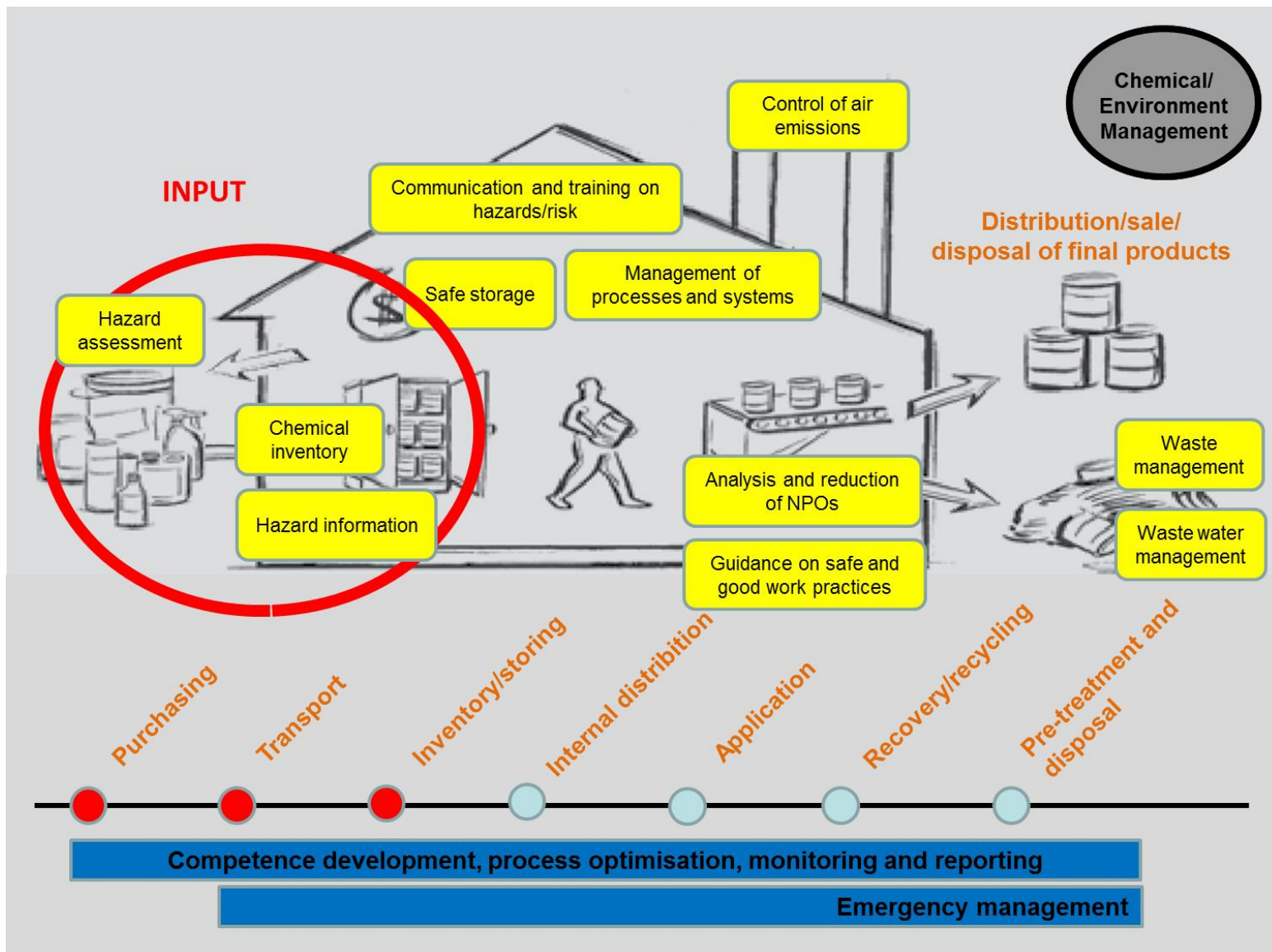
- Goal Progress monitoring (ref. CMS 4.1.1)
  - Establish, document and implement a process to monitor progress towards the goals created in CMS element 2.6
  - Can you verify that you have business goals, metrics and an audit programme to document the performance and continuous improvement of your chemicals management and sustainable chemistry efforts, including public reporting that communicates progress?



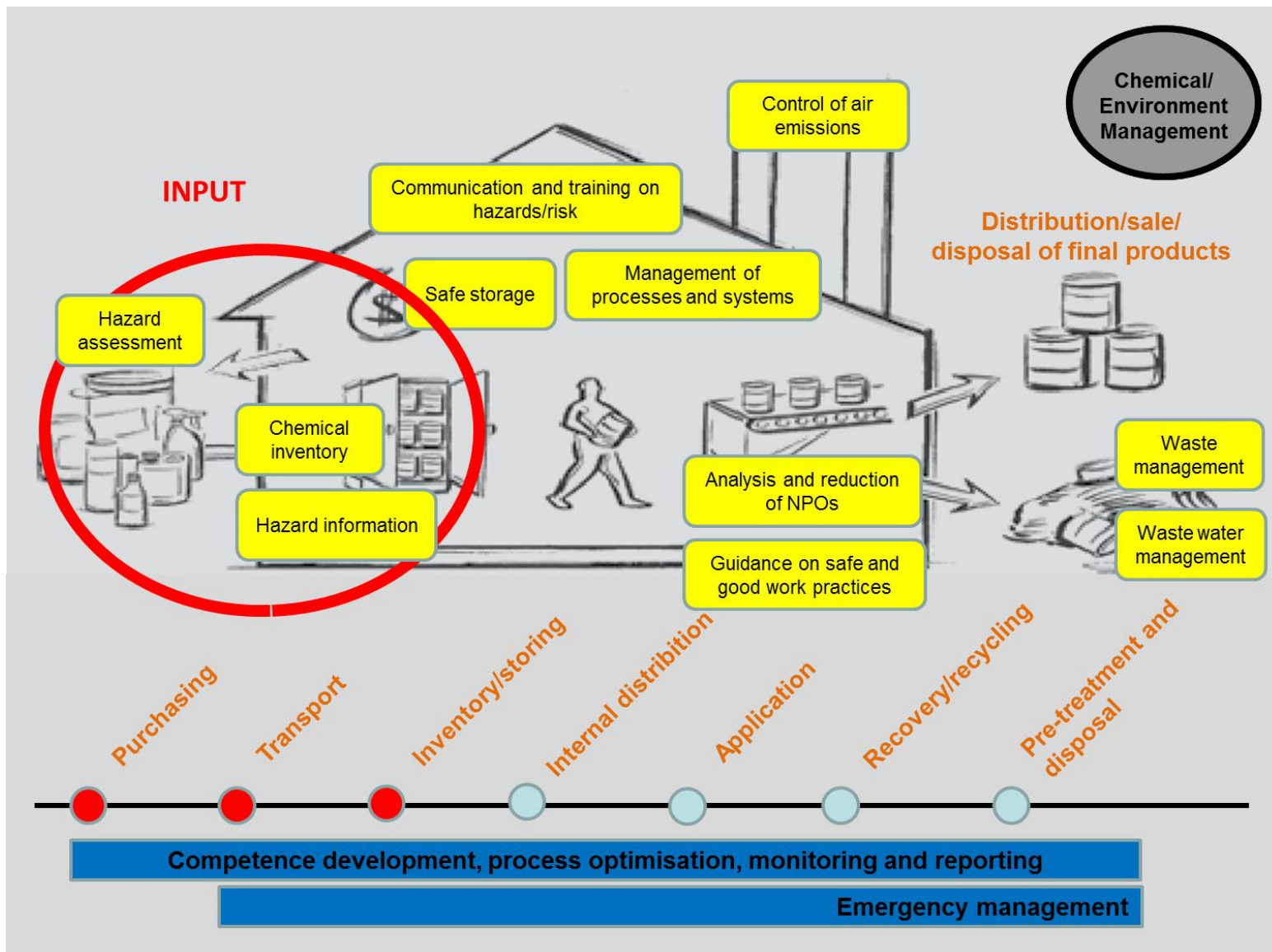
# Context at factory level



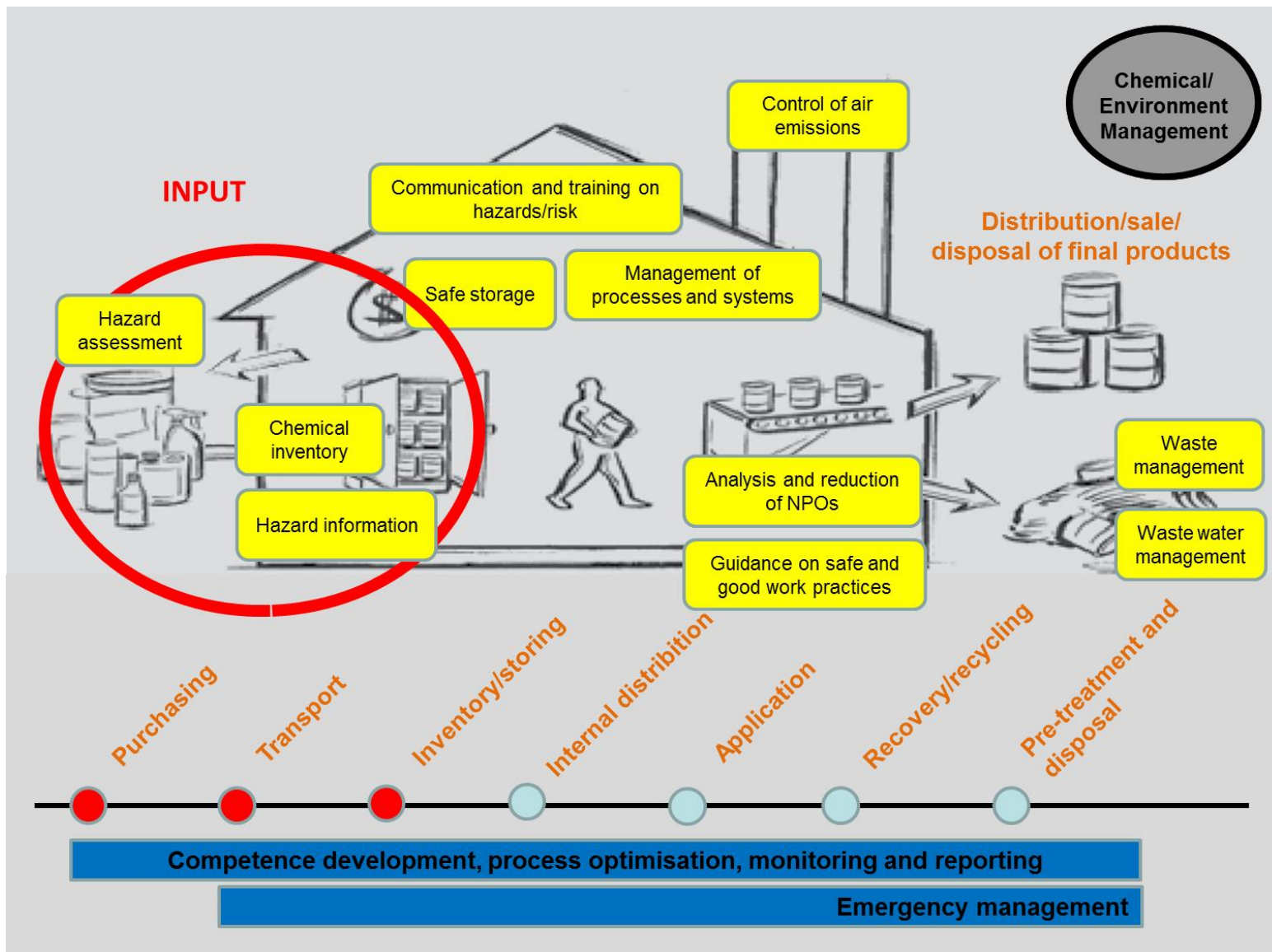
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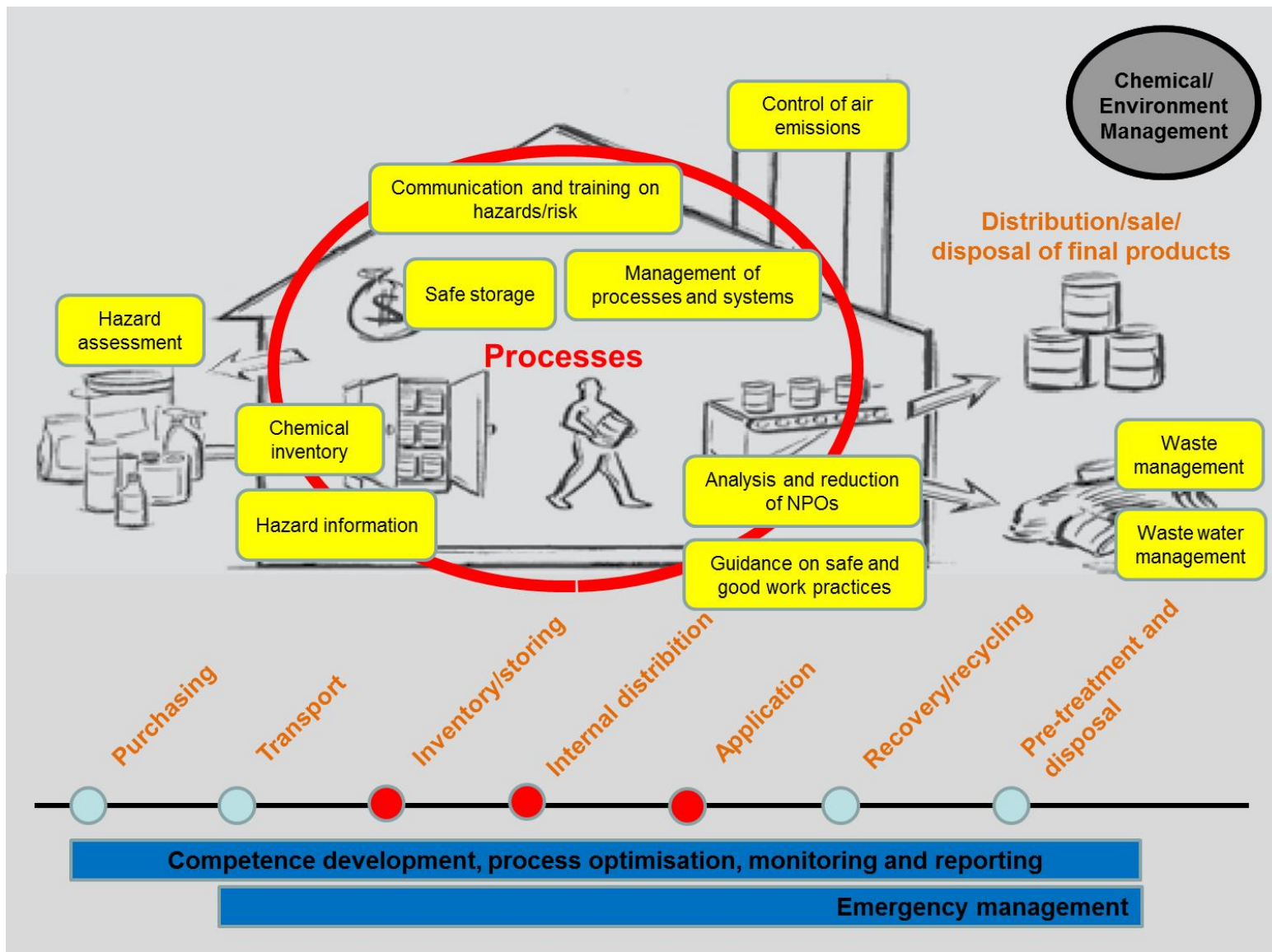


# Context at factory level



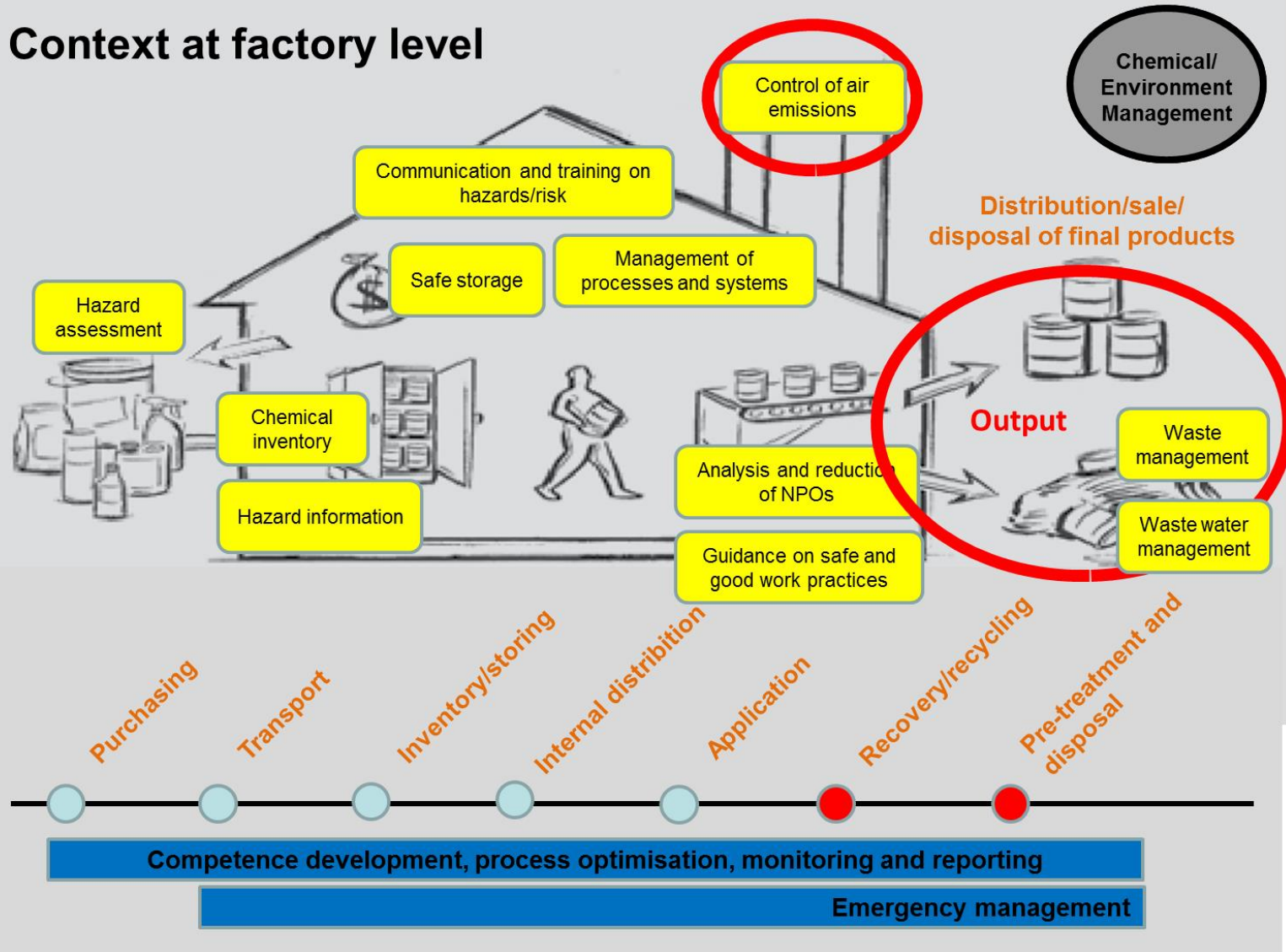


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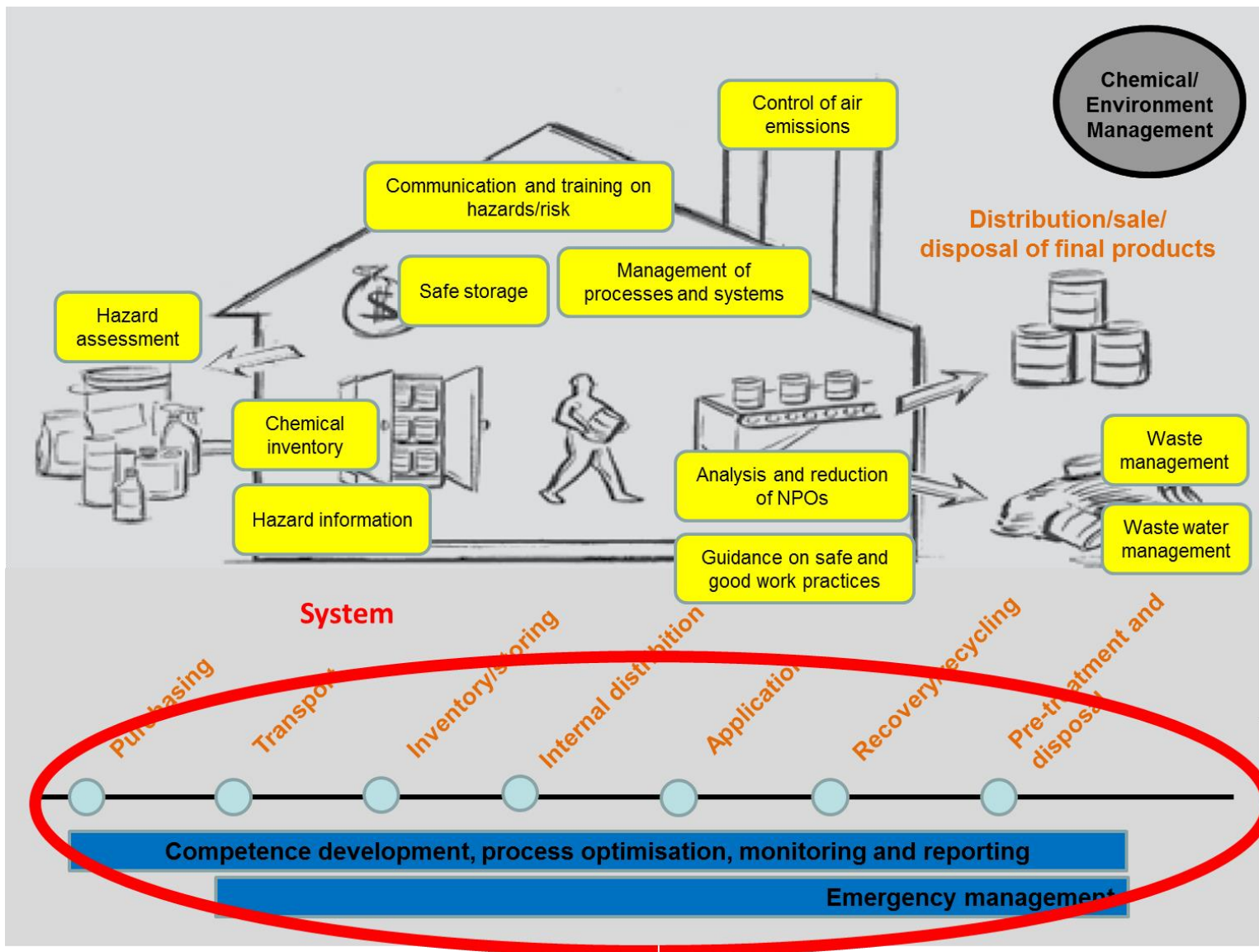


# Context at factory level

## Context at factory level



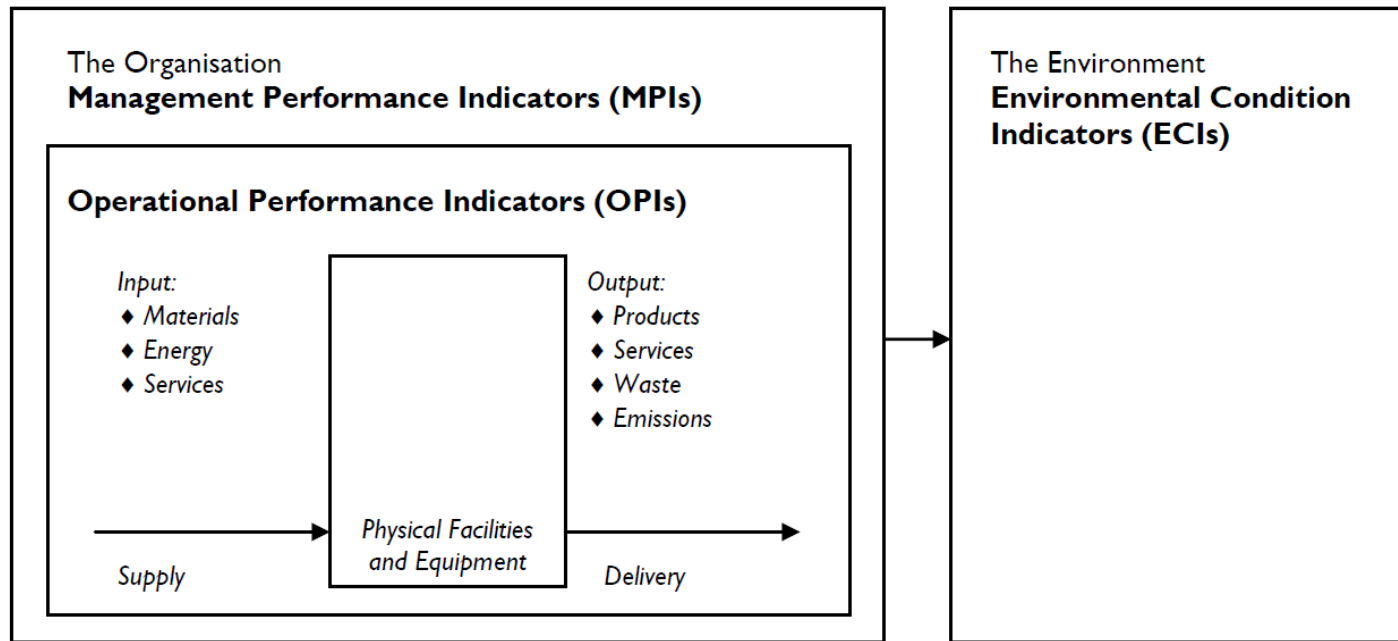
# Context at factory level



# Performance goals and action plans

## Selecting performance indicators

As per ISO 14031: Guidelines for Environmental Performance Evaluation



# Performance goals and action plans

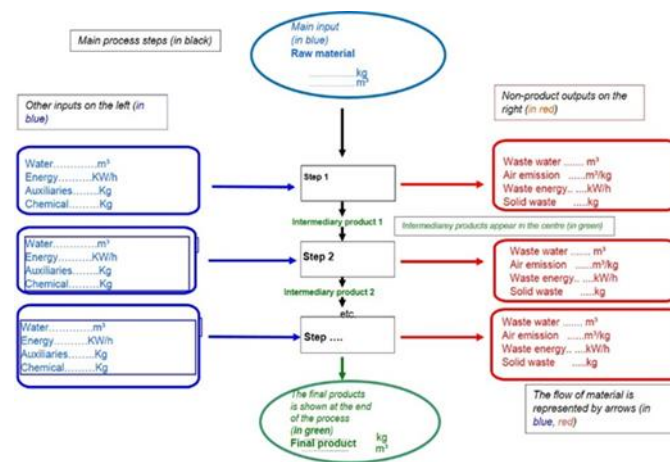
## Selecting performance indicators

### (1) Chemical flow related indicators

- Absolute indicators inputs, outputs, NPOs
  - e.g. tons of chemical used, production volume per year, m<sup>3</sup> of waste water generated, kg of hazardous chemical waste
- Productivity ratios
  - e.g. ton of product output per ton/kg/ltrs of chemical used
- Intensity ratios
  - e.g. m<sup>3</sup> of chemical containing waste water per ton of product output or kg of hazardous sludge per ton of product output
  - Kg/tons of hazardous chemical per kg/tons total chemical



Refer back to your process flow charts



# Performance goals and action plans

## Selecting performance indicators

### (2) Management system indicators

- Lagging indicators => measure end result of chemical management processes, policies and procedures
  - e.g. number of incidences reported, number of incidence free days worked, number of complains received, payment of fines, number of non-conformances by third party auditors
- Leading indicators => Describe and gauge the connection between policies, procedures, practices and activities in achieving desired chemical management outcomes
  - e.g. % of workers training, number of audits conducted, % of SDS as per GHS, number or % of containers labelled,....



# Performance goals and action plans

## Selecting performance indicators

- Quantity of hazardous chemicals stored/used
- Quantity/Number of hazardous chemicals replaced with less hazardous substances
- Number of chemical products with/without SDS
- Number of unlabelled containers
- Number of storage vessels containing hazardous substances with no containment or overfilling protection systems
- Number of operating procedures developed/changed for improving chemical safety
- Number of chemical emergency drills conducted
- Number of accidents and near-misses and their severity involving chemicals
- Value of non-product outputs
- .....

Based on UNEP Responsible Production Guidance and Toolkit



# Performance goals and action plans

## Selecting performance indicators - Examples

Performance area	Possible performance indicator
Chemical inputs	<ul style="list-style-type: none"><li>• Quantity of (total/ hazardous) chemicals stored storage and/or used</li><li>• Quantity of hazardous chemicals reduced</li><li>• Quantity of chemical used per square meter of fabrics produced</li><li>• Percentage of hazardous to total chemicals used</li></ul>
Chemical NPOs	<ul style="list-style-type: none"><li>• Quantity of chemicals discharged with waste water</li><li>• Quantity of hazardous treatment sludge generated</li><li>• Quantity of waste chemicals to be disposed</li><li>• Quantity of untreated air emitted</li><li>• Quantity of waste water generated per square meter of fabrics produced</li></ul>



# Performance goals and action plans

## Selecting performance indicators - Examples



Performance area	Possible performance indicator
Chemical management performance	<ul style="list-style-type: none"><li>• Number of hazardous chemicals substituted by less dangerous materials</li><li>• Number of chemicals on ZDHC MRSL eliminated</li><li>• Number of non-compliance/non-conformances observed/reported</li><li>• Number of accidents and near-misses and their severity involving chemicals</li><li>• Number of workdays without/Reduction of frequency of accidents and near-misses, and their severity;</li><li>• Number of injuries and fatalities from chemical accidents</li><li>• Number of chemical spills reported</li><li>• Costs related to chemical accidents (loss of product, liabilities, fines, property damage)</li><li>• ...</li></ul>

# Performance goals and action plans

## Selecting performance indicators - Examples

Performance area	Possible performance indicator
Chemical management performance	<ul style="list-style-type: none"><li>• Number of workers trained in chemical safety</li><li>• Number of internal audits/inspections conducted</li><li>• Number of corrective actions implemented</li></ul>



# Performance goals and action plans

## Benefits of monitoring and measuring performance

- Compare resource productivity and environmental/safety/health performance over time;
- Highlight improvement and optimization potentials;
- Identify and follow up on resource productivity and EHS targets;
- Discover market opportunities and cost-reduction potentials;
- Involve, educate and motivate staff;
- Promote organizational learning;
- Support decision-making by providing concise information about the current status and trends with regard to resource use and performance; and
- Implement CMS or EMS and/or generate information needed for your current CMS/EMS...
- Communicate your results to your stakeholders



# Performance goals and action plans

For further consideration



Select **ACCURATE** Indicators:

- **A**ssessable or measurable;
- **C**ontrollable - able to be changed by what you do in chemical management;
- **C**entral and relevant to what you are trying to achieve;
- **U**nderstandable and clear;
- **R**eliable - providing the same measures when assessed by different people;
- **A**ceptable to the users as true indicators of performance;
- **T**imely; and
- **E**fficient to monitor.

# Performance goals and action plans

For further consideration

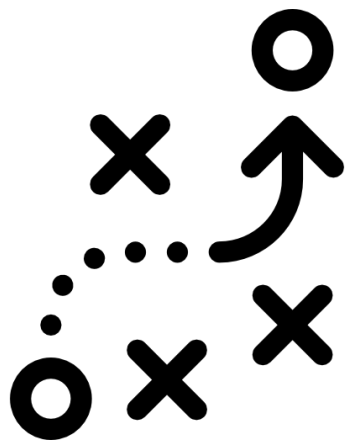
When selecting and using indicators

- Establish/Specify standardised ways how and how often you assess the indicators (=> ensure comparability!)
- Regularly review your indicators
  - Available indicators adequately reflecting your company's impacts and performance?
  - New or improved indicators available?
  - Quality and reliability of data collected satisfactory? Can the be increased?
  - Frequency of measurement sufficient?



# Performance goals and action plans

Linking performance indicators, goals and action plans



## Example

### Objectives

To improve the company internal hazard communication on chemicals used

### Targets/Goals

1. Reduce the number of unlabeled containers by xx % till end of year xxxx
2. ....

### (Key) performance indicator

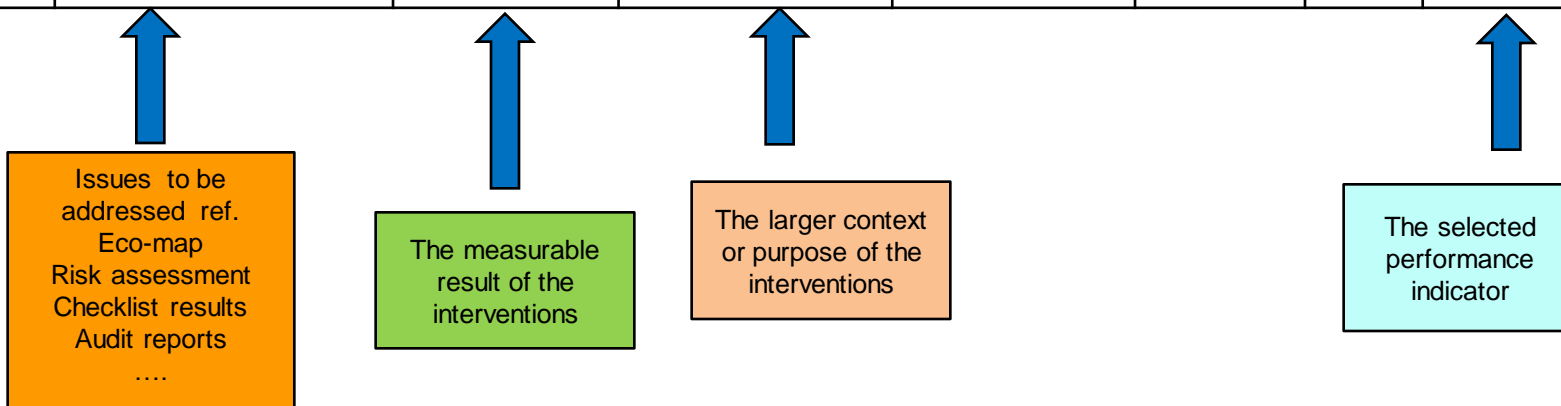
1. % of unlabeled containers
2. ....

# Performance goals and action plans

## Linking performance indicators, goals and action plans



#	Hazardous chemical/ critical situation/ loss/ identified gap	Target	Objective of proposed measure	Necessary action/ activities for achieving target	Person Responsible	Deadline	Results/ indicators to be monitored
1	Several chemicals cannot be clearly identified due to missing labels.	Reduce the number of unlabelled containers to 5%	To improve the company internal hazard communication on chemicals used				% of unlabelled containers
2	...						



# Performance goals and action plans

## Setting goals/targets

### Regulatory references

- Air emission standards
- Wastewater discharge standards
- Content limits for solid waste (e.g. sludge)
- Occupational exposure limits

### Non-regulatory references

- Industry standards and common practices
- Standard recipes
- Chemical supplier recommendations
- ...





# Performance goals and action plans

## Possible priorities areas

- Establishing/fine-tuning chemical management system elements
- Enhancing long-term performance e.g.
  - Substitute chemicals of concern
  - Reduce exposure of workers in certain processes
  - Enhance safety in storage of chemicals
  - Improve use of personal protective equipment
  - Improve maintenance and housekeeping
  - Enhance emergency response capacities
  - Change purchase practices
- Address immediate needs (hotspots)



# Performance goals and action plans

## Linking performance indicators, goals and action plans

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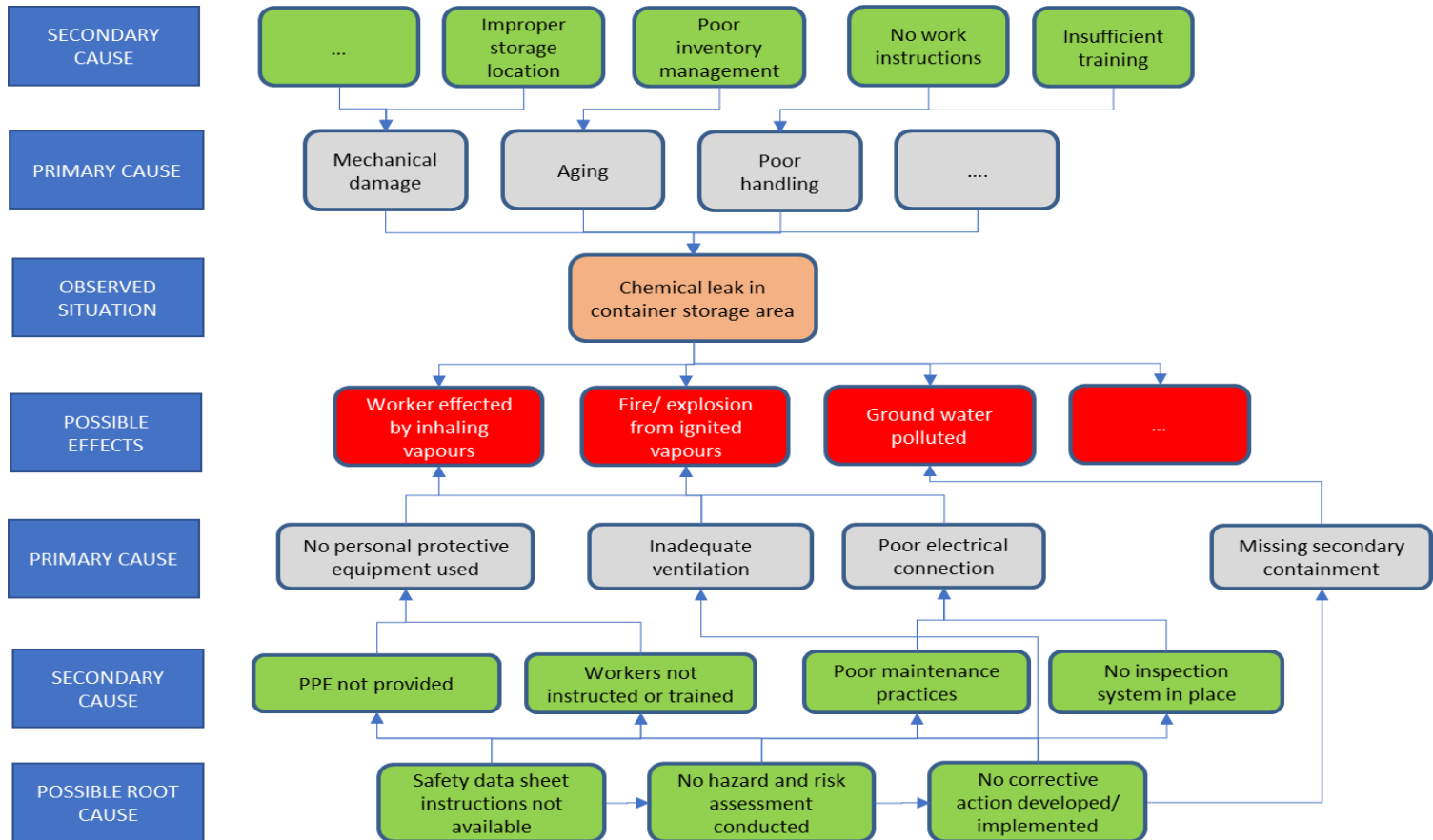


### Remember

- Selecte measures to address to root causes and not the symptoms
- Consider impact and cost

# Prepare action and performance plans

## Select Measures To Address The Root Cause



# Prepare action and performance plans

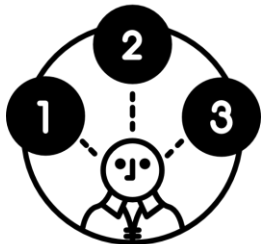
## Select suitable measures

There may be several options available to address the same issue. In order to decide the most suitable measures, the various option can be compared with each other.

(1) **Technical feasibility** (technical capabilities, training required, process adaptations required, product quality assurance,....)

(2) Extent of **positive/negative** environmental/ ecological as well as health & safety **effects**

(3) **Economic/financial implications** (capital investments required, increase/decrease of operating costs, savings ...)



# Prepare action and performance plans

## Select suitable measures

For each action identified, list the costs and savings - **example**

Action	objectives	Capital investment	Additional operating costs (per year)	Ongoing savings (per year)	Payback time (years)	Savings factors
Consider the purchase of an automated chemical dispenser	Improve RFT	\$30,000	\$ 5000	---	1 year	<ul style="list-style-type: none"><li>• 10% of chemicals</li></ul>

# Prepare action and performance plans

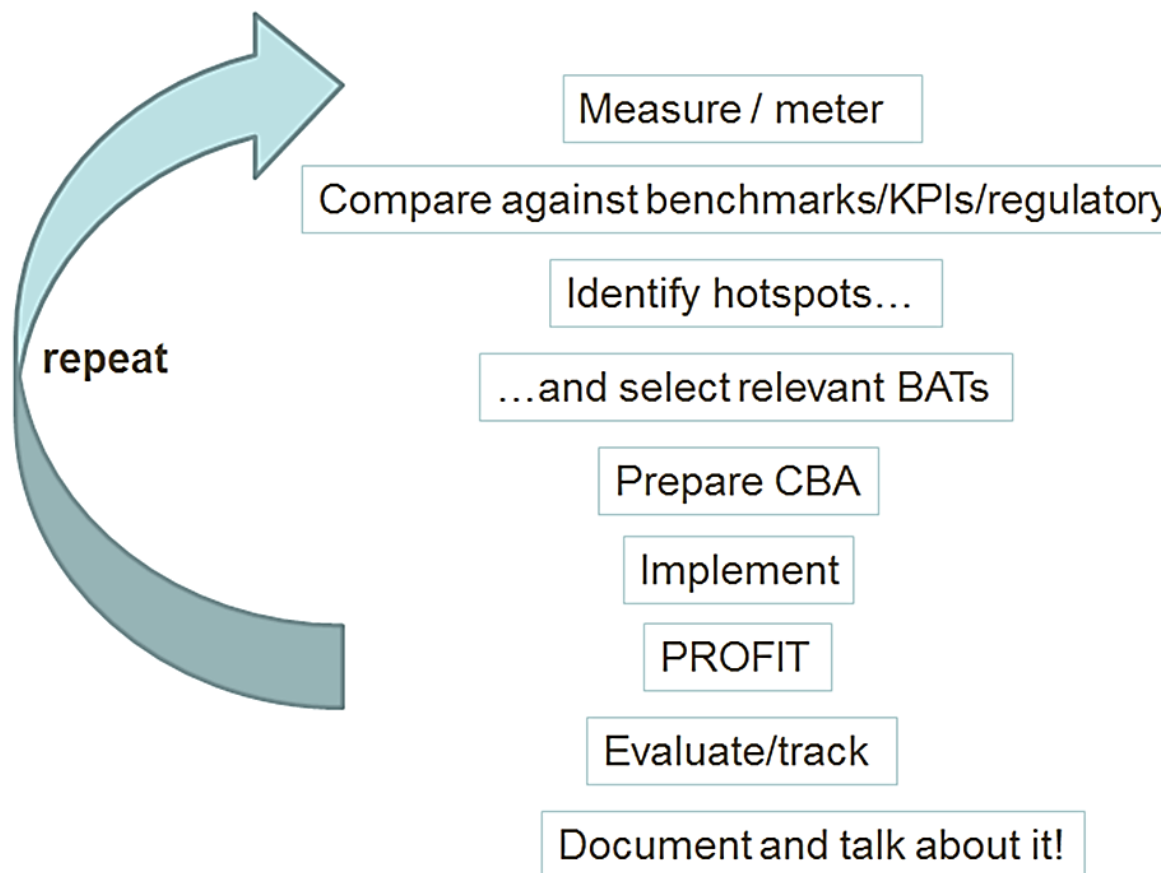
## Example - Adoption of BATs

Using a cost-benefit analysis (CBA) for Best Available Technologies (BAT) safe raw materials and working environment

- What does the BAT cost (investment) for internationally accepted chemicals, equipment, safety materials cost?
- When would it recover the costs? 'How does this work?
- To which degree of certainty will the costs be recovered?

# Prepare action and performance plans

## Example - Adoption of BATs



# Prepare action and performance plans

## Example - Adoption of BATs

### Evaluate and track your achievements / savings

- Compare input/output levels before and after the implementation of the BATs
- Document improvements and savings
- Report savings and benefits (compliance with regulatory, ZDHC, ecolabels) to the management

### Think ahead!

- What can be done next?
- Where is still potential for improvement?
- What will it cost?
- What will it save?





# Prepare action and performance plans

Select suitable measures



Ref .	Hazardous chemical/ critical situation/loss/ identified gap	Proposed measure	Objective of proposed measure	Necessary action/ activities for implementing measure	By whom	By when	Results/ indicators to be monitored	Monitoring
...	....	...	...	...	...	...	....	....
3	3.1 Existing exhaust ventilation dispersing exhaust air into breathing zone outside the screen stripping room.	3.1. Arrange for exhaustion of contaminate air away from stripping area	To reduce of adverse health effects of workers in and around stripping area during regular work and emergency situations	3.1.1 Install exhaust duct to roof top level for better removal of exhaust air from the work area	Mechanical department	15th Dec 20xx	Reduced presence of phenol bath vapours behind stripping room	
				3.1.2 Design and install possible local exhaust from roller bath	Mechanical department	31st Dec 20xx	Reduce concentration of phenol vapours inside the stripping room	
....	...	...	...	...	...	...	...	...

# Prepare action plan

## Group exercise

**Task:** Apply the root cause analysis to identify possible actions to address the situation. Time 45 min

#	Hazardous chemical/ critical situation/loss/ identified gap	Target	Objective/goal of proposed measure	Necessary action/ activities for achieving target	Person Responsible	Deadline	Results/ indicators to be monitored
1	Several chemicals cannot be clearly identified due to missing labels.	Reduce the number of unlabelled containers to 5%	To improve the company internal hazard communication on chemicals used	?		March 2017	% of unlabelled containers
2	...						

# Prepare action and performance plans



## Selecting measures

- Short-term measures for addressing hotspots
- Select medium-/long-term measures to address root causes identified

# Prepare action and performance plans

## Remember

When assigning responsibilities to implement the action plans or assigned tasks, you need to make sure that these persons

1. have the necessary expertise or have the opportunity obtain such expertise
2. have or are provided with the necessary authority; and
3. are allocated with the required resources

Getting your top management endorsement is the final stage to go through.

**Develop and sell your business cases!**

# Where to find more information



- EU Reference documents on the Best Available Technologies (BAT) often referred to as BREFs (available for Textile Industry, 2003, Tanning of Hides and Skins, 2013)  
<http://eippcb.jrc.ec.europa.eu/reference/>
- UNEP PRE-SME (Promoting Resource Efficiency in Small and Medium Sized Enterprises), 2010, [http://www.unep.org/pdf/PRE-SME\\_handbook\\_2010.pdf](http://www.unep.org/pdf/PRE-SME_handbook_2010.pdf) , includes benchmarks for the textile and leather industry (Section 9, pages 90-92)
- Global Effluent Requirements (GER) for industrial wastewater discharges for all factories that finish or launder garments for Levi Strauss & Co., visit: <http://www.levistrauss.com/wp-content/uploads/2014/01/Global-Effluent-Requirements-GER.pdf>