



# BIONET PROJECT : A SENTINEL SURVEILLANCE SYSTEM FOR THE MONITORING OF OCCUPATIONAL RISK FACTORS IN AFRICA



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\*\* BIONET Consortium - <https://bionet.au.dk/>

## INTRODUCTION & AIM

**10 to 20x more risk of occupational hazards in developing countries, compared to developed ones.**

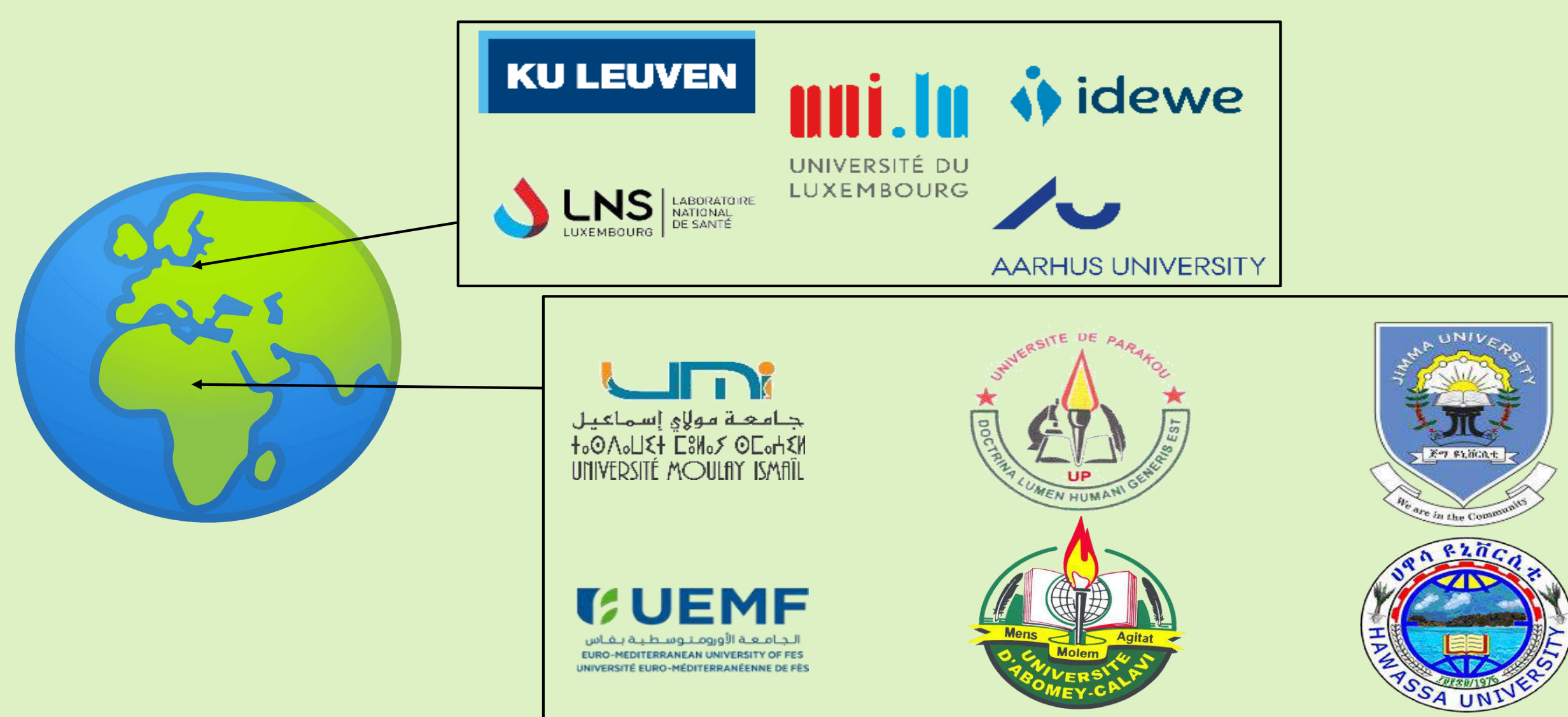
**Comprehensively collecting human exposure data is challenging and costly !**

### Research hypothesis :

- Workers in the African countries are at higher risk of exposure to hazardous chemicals in working environments
- A sentinel system could help provide infrastructure for large scale data, human biomonitoring and advanced analysis related to occupational exposure

### Objectives :

- To monitor the exposure to hazardous compounds of African workers at workplaces and its potential health risks using innovative methods and enhanced technologies.
- To explore and test the feasibility and efficiency of a sentinel surveillance system in the early detection of chemical hazards in occupational setting in Africa.



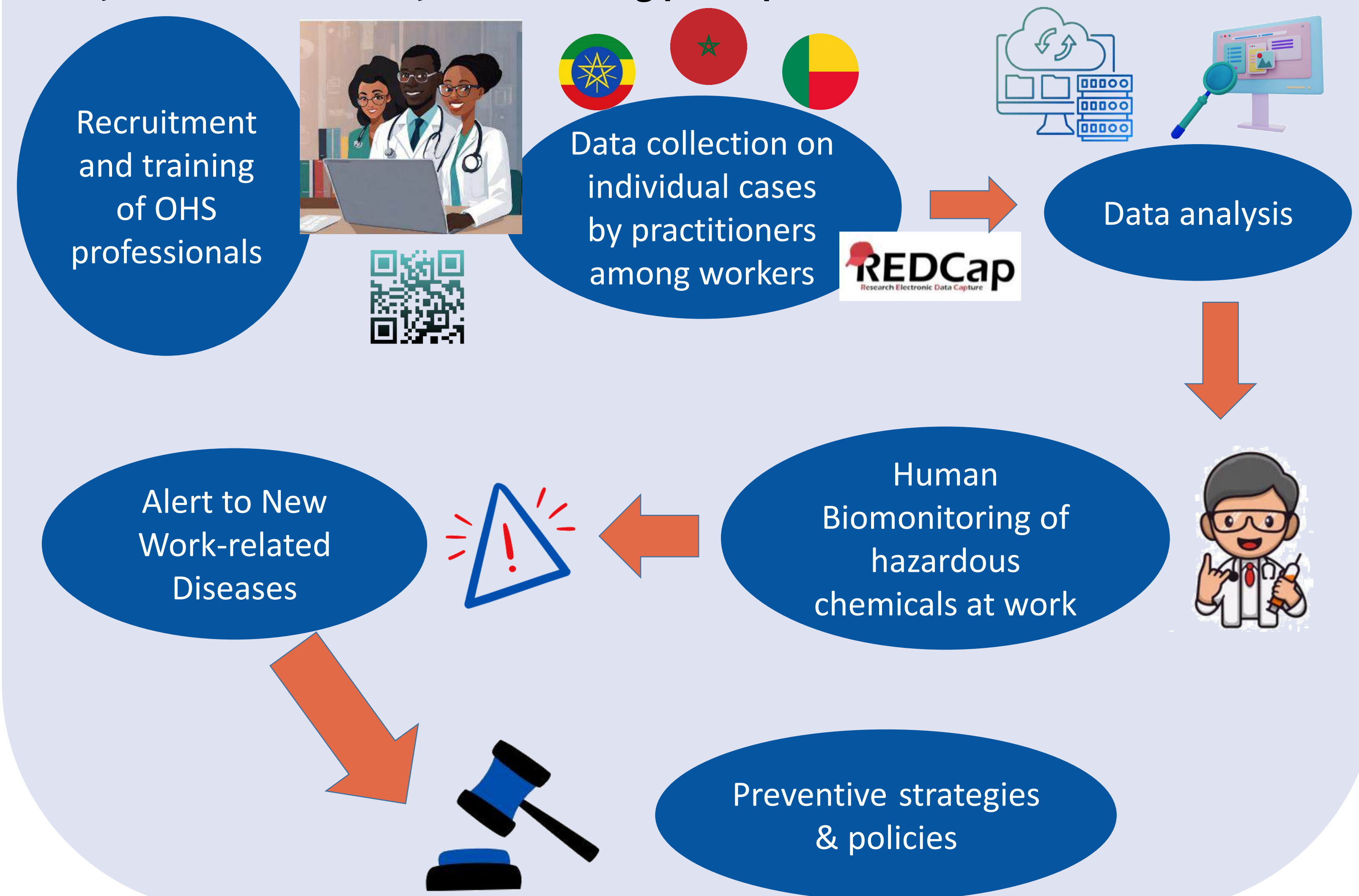
## METHODOLOGY

✓ A pilot questionnaire-based survey among working adults conducted in 2023 to define the hazardous chemical exposures helping the first mapping exercise (158 respondents in Morocco).

✓ 30 occupational physicians or health practitioners enrolled in the study in each country (Morocco, Benin, Ethiopia)

✓ Each physician/practitioner is required to recruit 50 workers

✓ By the end of the study, 1500 working participants will be included.



## RESULTS

- Among 158 Moroccan workers recruited, **68% are men**.
- The mean age is 38,2 yo ± 10,2. 24% are working in **agro-industry**, while the others are working in trade, waste collection and treatment, transport, building and textile.
- 52%** declared being exposed to physical agents in the workplace, while 24% are exposed to biological agents.

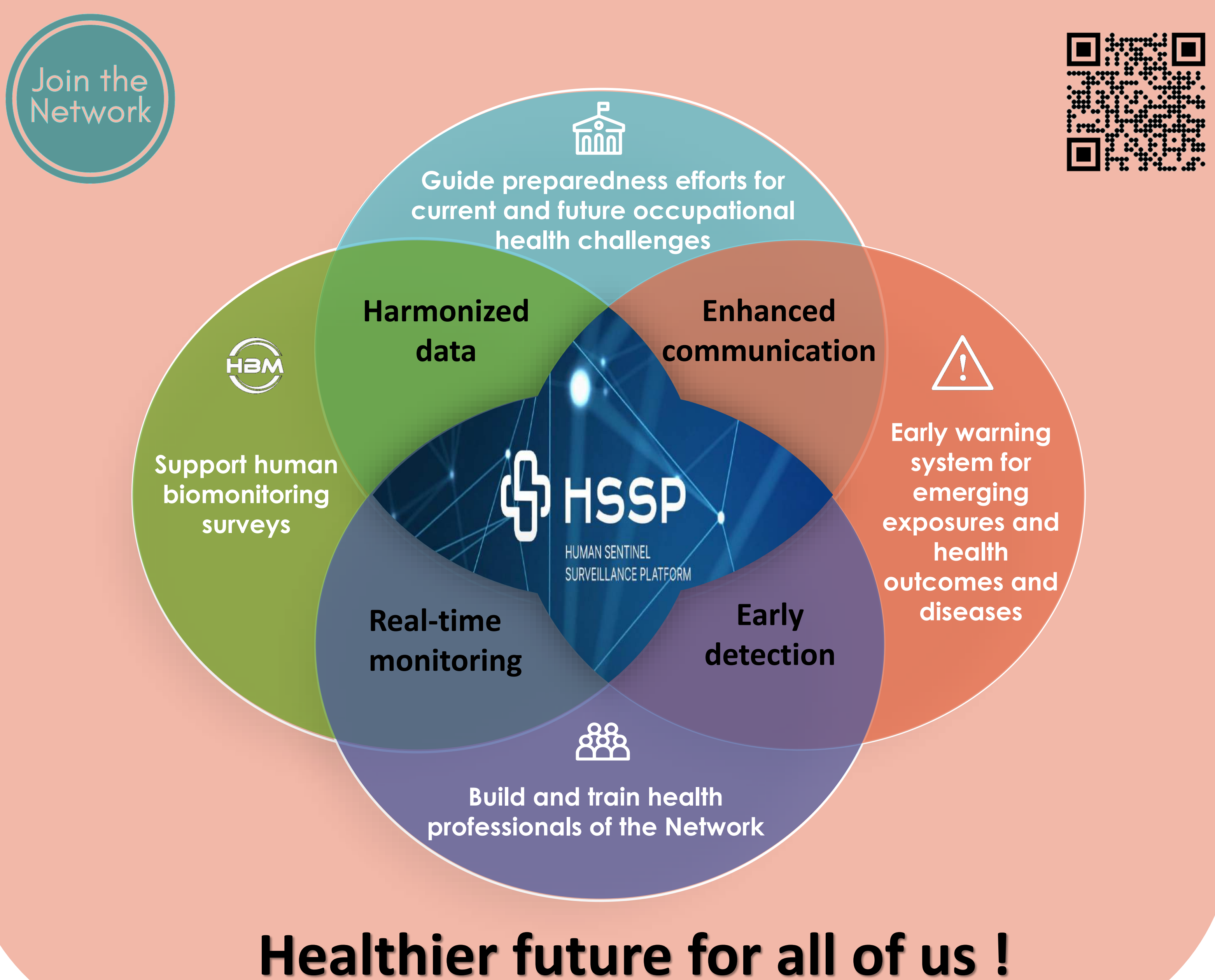
**69% are not using PPE** during the manipulation or the work with potentially hazardous compounds.

**12% were not aware** of the existence of a risk assessment document in the workplace, which could suggest an absence of a safety policy within some companies.

Table. Preliminary percentages of workers' exposure to chemical agents in Morocco

	Yes (%)
<b>Exposure to chemical agents</b>	<b>54,0</b>
Hydrofluoric acid and mineral derivatives	4,0
Ammonia and aqueous solutions	4,0
Fuels	24,0
Aldehydes	12,0
Asbestos	8,0
Wood dust	8,0
Silica	4,0
Fumes from welding metal elements	16,0
Diesel exhaust	16,0
Pesticides	36,0
Benzene	8,0

## FUTURE DIRECTION OF SENTINEL SURVEILLANCE PROJECT IN AFRICA



**Healthier future for all of us !**

