

Collaborative robots

Identify risks to prevent them

Several risks identified



Risk of physical impact
Collision, crushing



Specific risks
Burns, intoxication



Risk of musculoskeletal disorders
Pain in wrist, shoulder, back...



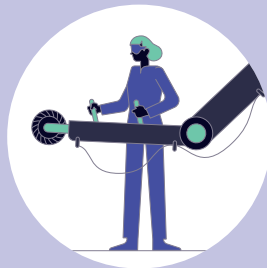
Psychosocial risks
Mental overload, isolation

Organisational solutions



Training

Develop new skills.



Activity monitoring

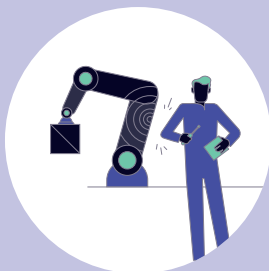
Limiting awkward postures.



Change in organisation

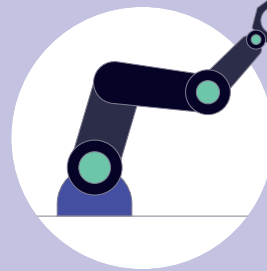
Rethink collective work.

Technical solutions



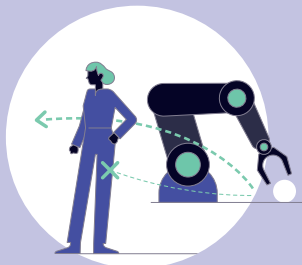
Limit on power and effort

The robot stops immediately in case of collision.



Changes to the robot's physical characteristics

Lighter weight, no sharp edges or angles, no risk of jamming.



Speed and separation monitoring

The robot avoids the operator if necessary using another trajectory.



Safety-rated monitored stop

The robot slows down when the operator gets closer and stops if necessary to avoid collision.

Other risk reduction measures (physical barriers, light curtains, etc.) should be added to these solutions if needed.