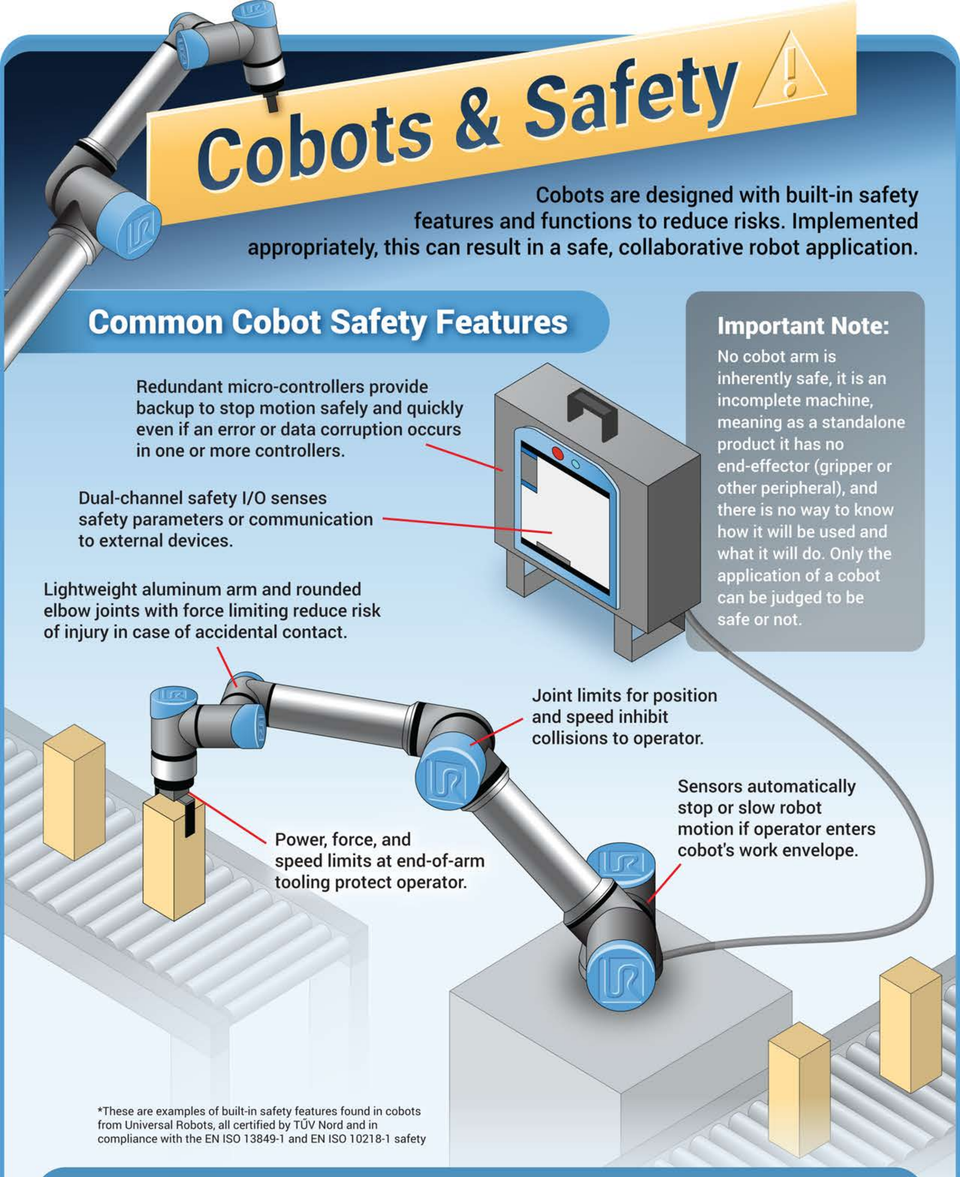
Cobots & Safety

Cobots are designed with built-in safety features and functions to reduce risks. Implemented appropriately, this can result in a safe, collaborative robot application.

Common Cobot Safety Features



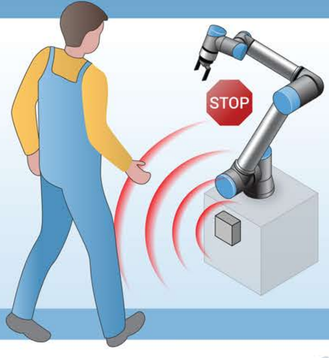
Important Note:
No cobot arm is inherently safe, it is an incomplete machine, meaning as a standalone product it has no end-effector (gripper or other peripheral), and there is no way to know how it will be used and what it will do. Only the application of a cobot can be judged to be safe or not.

*These are examples of built-in safety features found in cobots from Universal Robots, all certified by TÜV Nord and in compliance with the EN ISO 13849-1 and EN ISO 10218-1 safety

What should be looked at in a risk assessment?

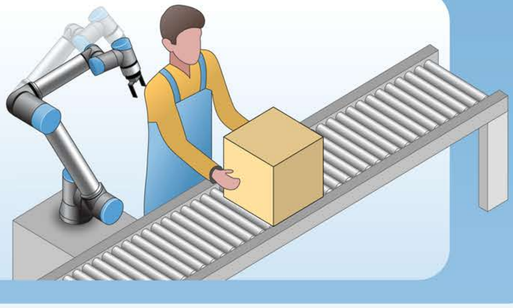
A risk assessment identifies all tasks and all hazards associated with the tasks. For each task/hazard pair, determine what is the most likely:

Two ways to accomplish collaborative operation with cobot and human in the same work envelope:



Speed and separation monitoring (SSM) provide additional precautions that can allow the cobot to exceed safety limits. This allows the cobot to meet higher production speeds when no operator is detected in the cobot's work envelope. When the safety device—such as a safety scanner, light curtain, or safety mat—detects a person entering the work envelope, the cobot stops or drops into safe reduced speed.

Contact with a person may be permitted by the robot application, with contact energy within allowed limits. This is accomplished through power and force limiting (PFL) methods supported by cobot safety functions. See ISO/TS 15066 or RIA TR R15.606 for details.



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