

D-03 System Solution

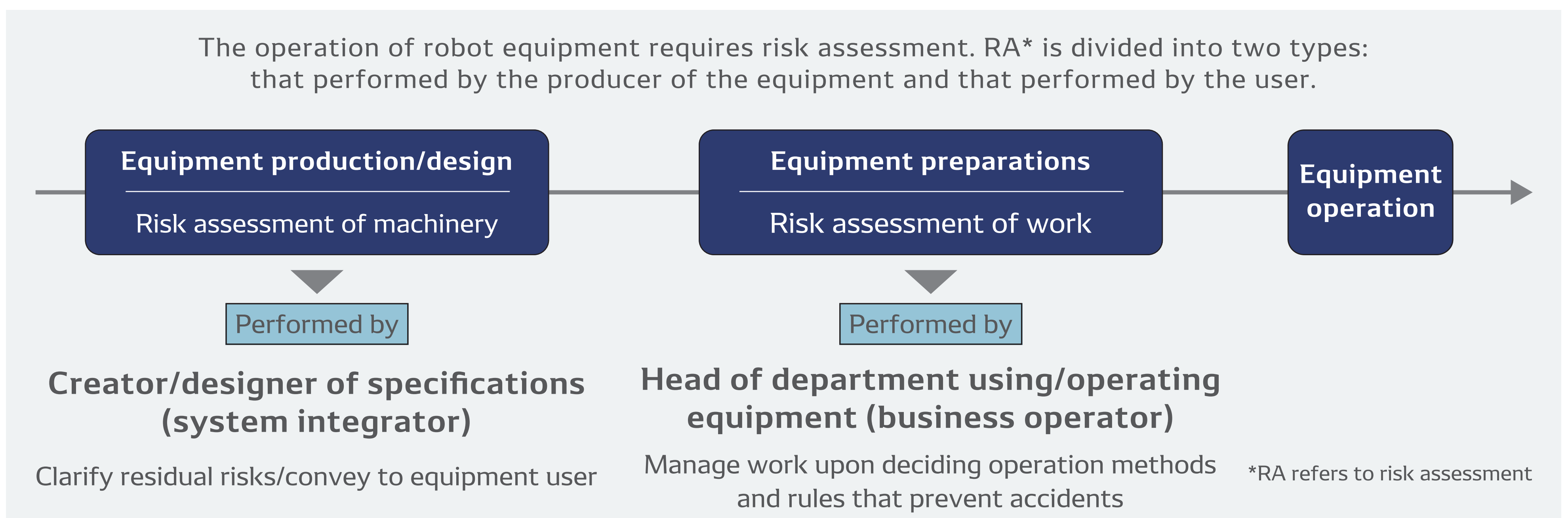
Risk Assessment Adoption Assistance Service

- This solution assists the series of risk assessment processes required for operating a robot system designed/produced by Denso Wave, from risk analysis to evaluation and reduction.

What is risk assessment?

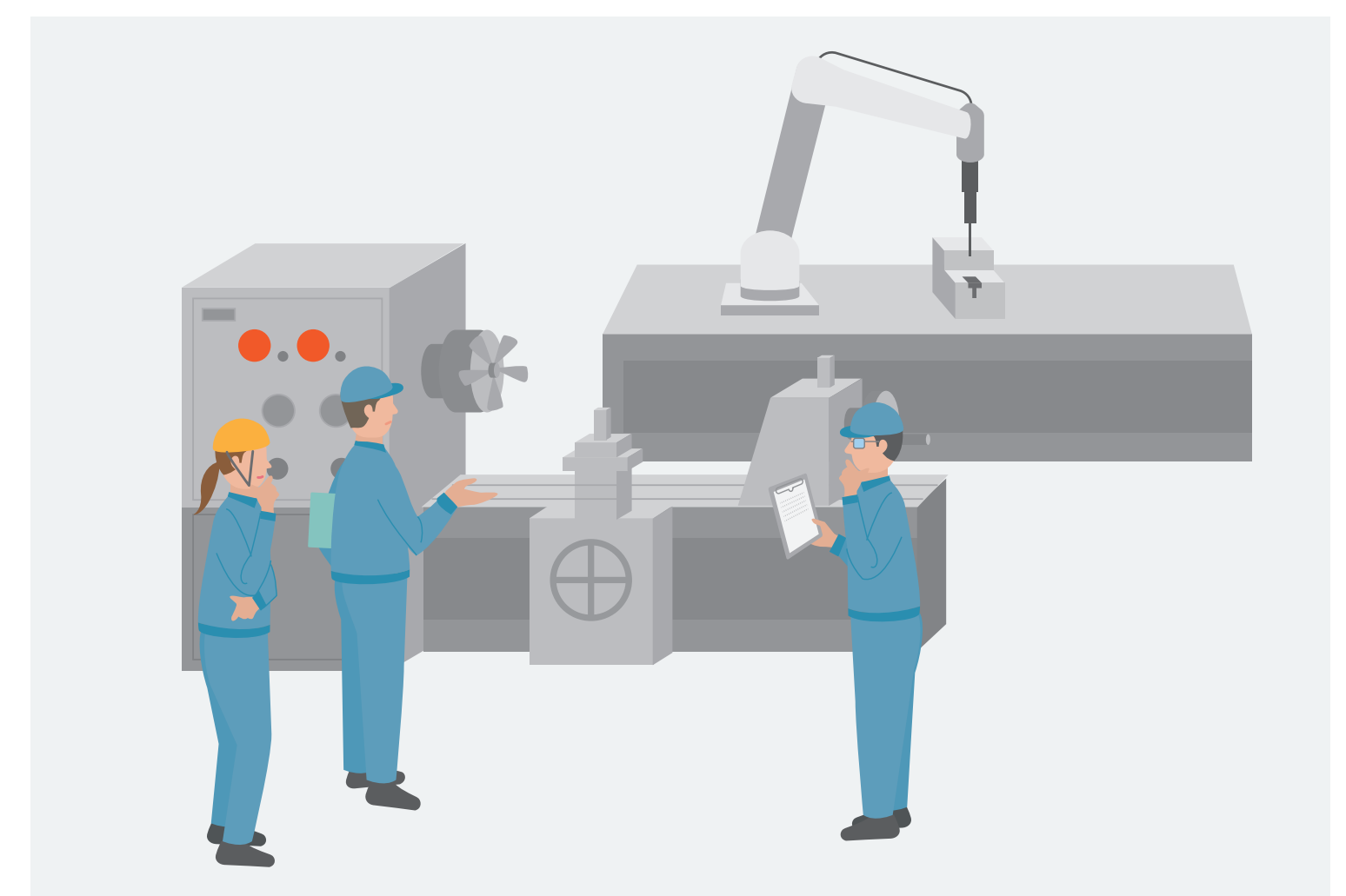
When a business operator independently investigates the dangers and hazards that may occur with equipment and work, and investigates and implements required countermeasures.

*Obligation for effort as stipulated in Article 28-2 (1) of the Industrial Safety and Health Act

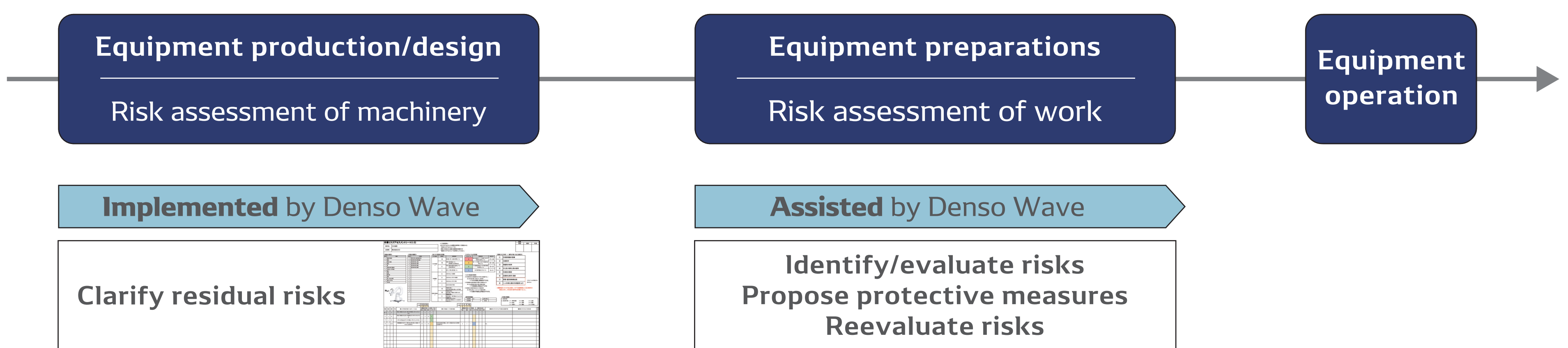


Comments from customers (business operators) responsible for implementing work RA

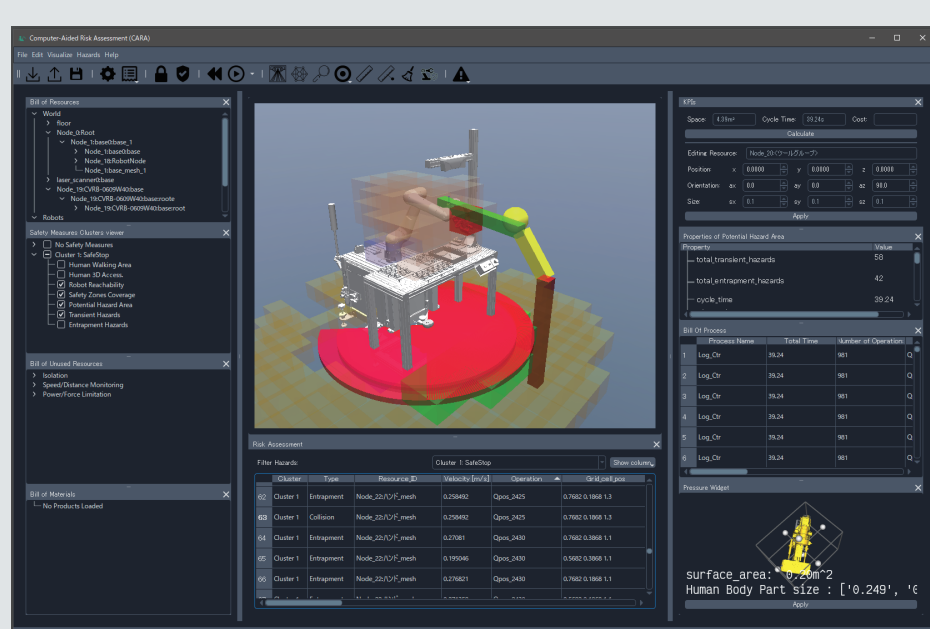
- "I want to perform risk assessment, but I don't know how to get started."
- "I don't know what kind of risks there are."
- "I'm having trouble getting started because we do not have a proper internal personnel system."
- "I don't know who to ask for advice."



Service Details



Utilize dedicated software to quantify and visualize risk



Utilize the CARA* simulation software to identify risks caused by the robot colliding or getting caught

- Link with the WINCAPS III offline programming software to visualize the areas at risk of the robot colliding or getting caught based on the created robot operations and model of the surrounding equipment
- Calculate the force/pressure of collisions to estimate/evaluate risk
- Safe distances are calculated based on robot information and safety devices such as a laser scanner or light curtain to help determine the optimal placement of safety devices

*Provided by Fraunhofer IPA (in Germany) and Denso Corporation

Benefits of Using the Service

- Benefit 1** Equipment designer provides support and direct consultation
The designer of the equipment, Denso Wave, assists work RA while effectively utilizing the safety functions of the robot. Having a single contact point enables consistent support of everything from equipment production to equipment preparation.
- Benefit 2** Assist risk assessment Provide work RA sheet
Work RA involves listing work details, investigating sources of danger, conducting risk analysis and evaluation, proposing risk reduction measures, and re-evaluating risk. The results of the risk assessment are submitted as a work RA sheet.
- Benefit 3** Work together with equipment designer to deepen understanding of internal RA
Explain results of work RA together with actual equipment. The person in charge of corporate risk assessment can accumulate knowledge on risk assessment and create work requirements that consider residual risk, in accordance with the results of the work RA.