



A New Welding Environment where Operators and Robots Work Together

Next Generation Welding Machines & Collaborative Robots

- **Older skilled welders and a growing shortage of labor**
- **Even when new welding operators are found, they don't know how to use the welding machine.**
 - **Need more time for education**
- **Various fittings and complex workpieces.**
 - **Skills required**

Need more time for education

→ Supported by **Next Generation Welding Machine**

- **Know-how-less** welding power supply
- Feed unit **designed for ease of use**
- A torch that **fits all kinds of people**
- **Low spatter welding mode** for highest quality



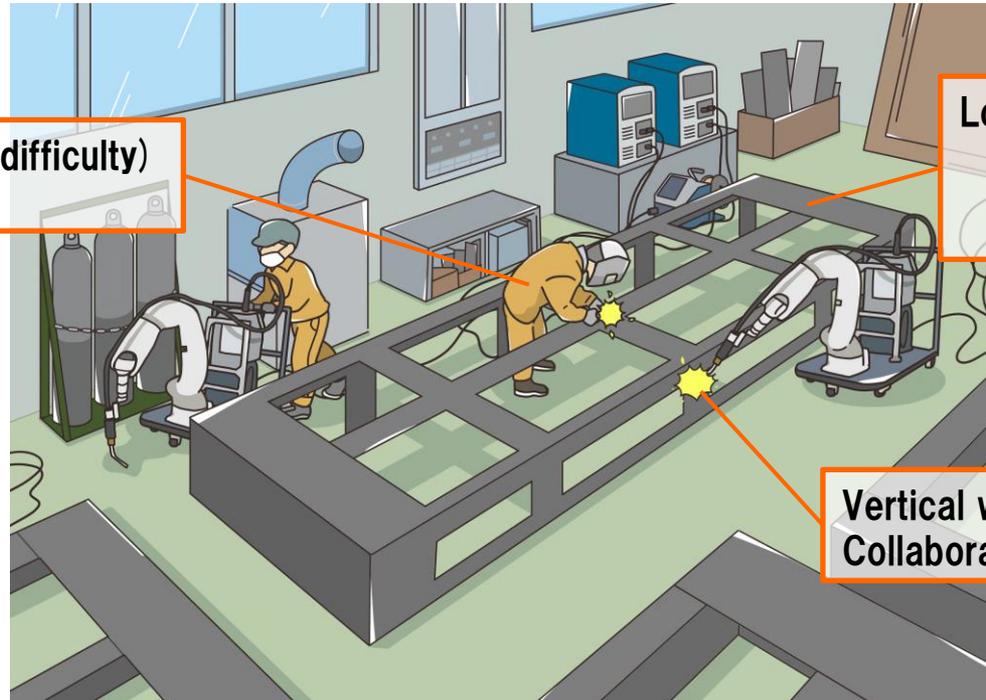
Welding skills required

→ **Collaborative robots** provide support

- Stable, high-quality welding with **high trajectory accuracy**
- Easy to install without **the need for safety fences***.
- Teaching is ideal for welding sites.

*If safety fences are not installed, a risk assessment must be conducted by the customer.





Downward welding (low difficulty)
New welder in charge

Long and large workpieces
Many welding points
Welding by several people
Various welding position

Vertical welding (high difficulty)
Collaborative robots are in charge

Human and robot work together to support the shortage of skilled welders

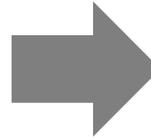
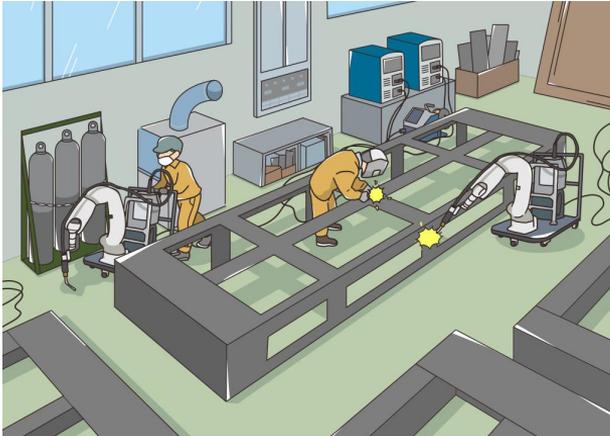
<Demonstration conditions>

Welder

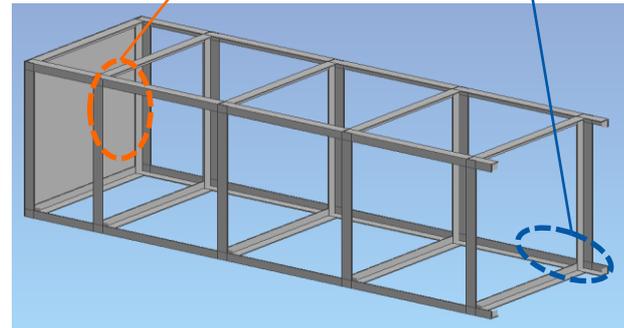
- Board thickness : 3.2 mm
- Joints : **T-joints**
- Welding position : **downward**

Cooperative Robot (FD-VC4)

- Board thickness : 3.2 mm
- Joints : **corner** joints
- Welding position : **vertical (upward)**



Cooperative robots weld People welding



Daihen proposes a new work style for welding sites

DAIHEN