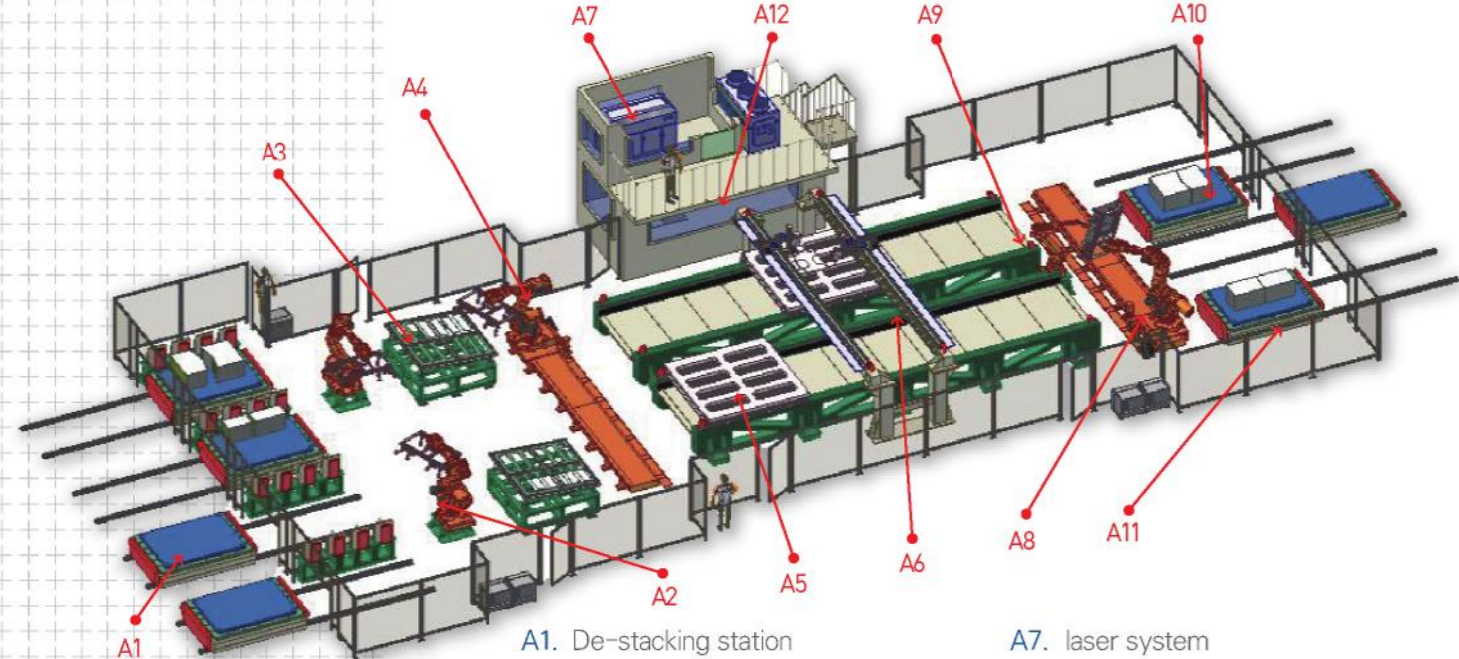
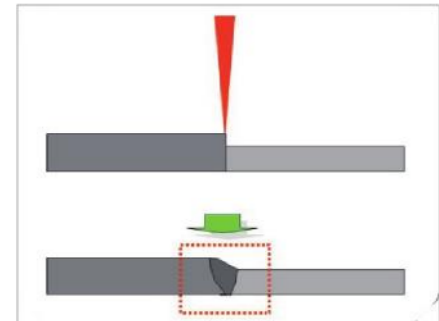


TWB (Tailored Welded Blanks) TWB(Tailor Welded Blanks) have evolved from same gauge steel sheets welded together to different thickness and/or strengths that are joined together to consolidate stampings and achieve cost effective weight reduction.

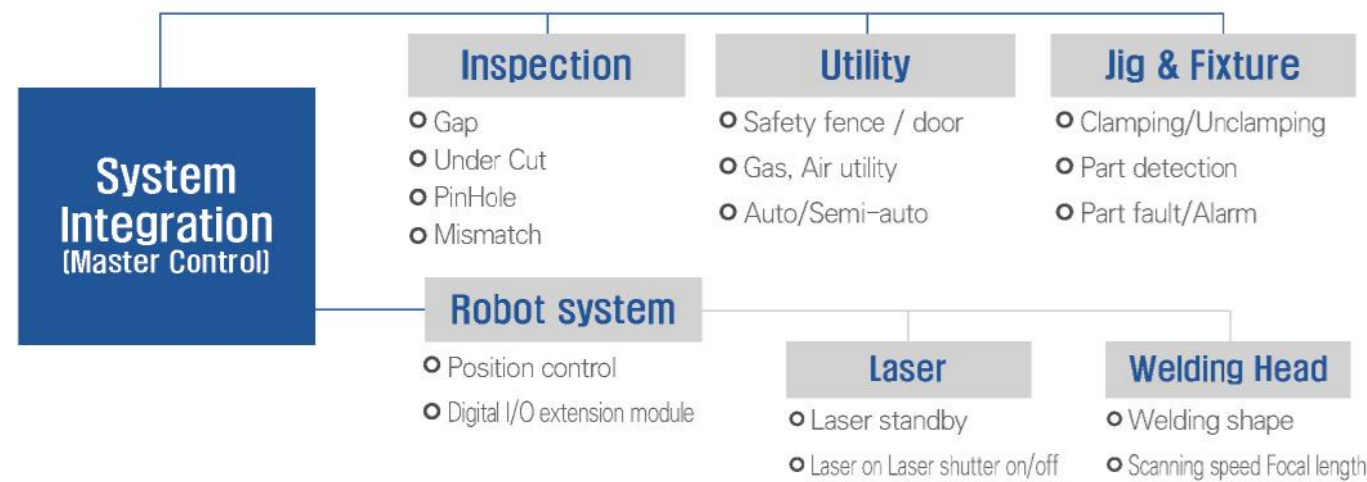


- A1. De-stacking station
- A2. De-stacking handling robot
- A3. Pre-centering station
- A4. Pre-centering handling robot
- A5. Welding station
- A6. Welding robot
- A7. laser system
- A8. Stacking robot
- A9. Inspection robot with laser vision
- A9. Stacking station
- A10. Safety system
- A11. Laser and Operator Room

TWB System (Tailored Welded Blanks)



Configuration



SIS CORPORATION

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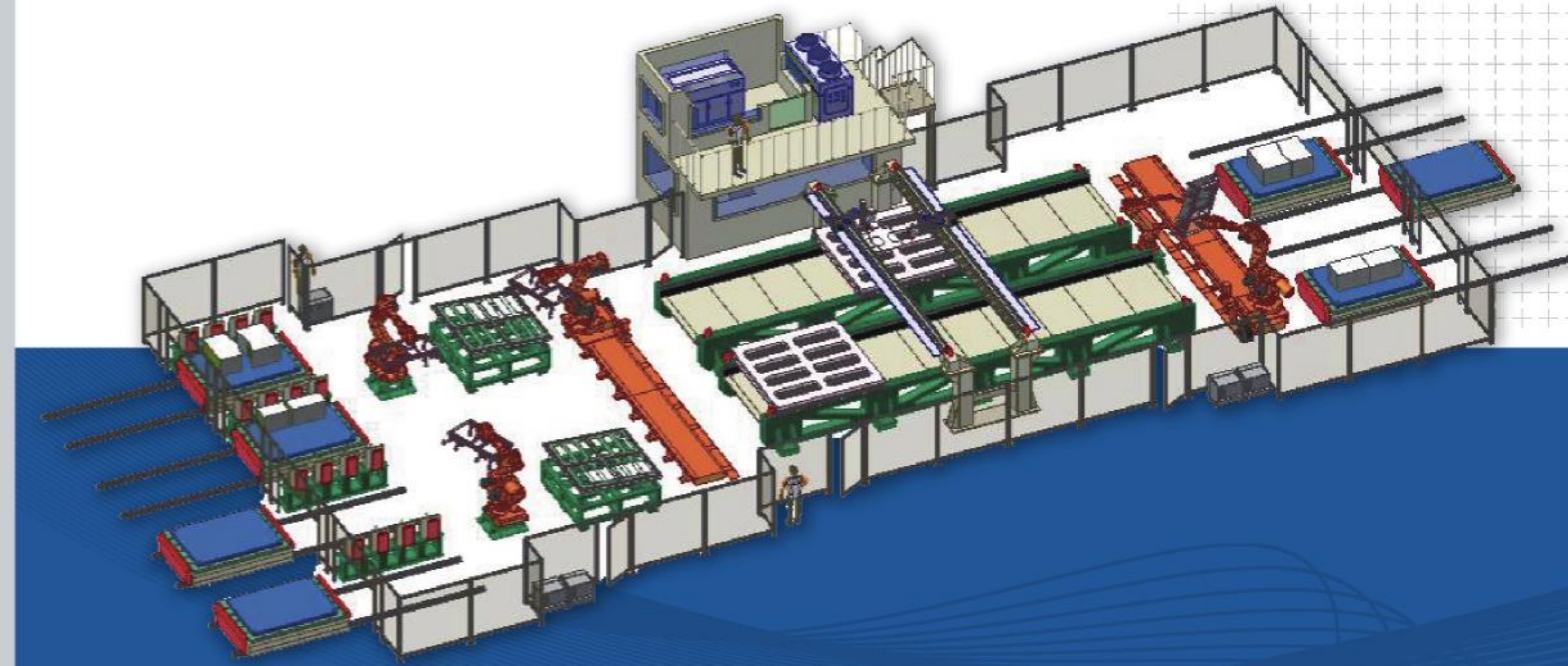
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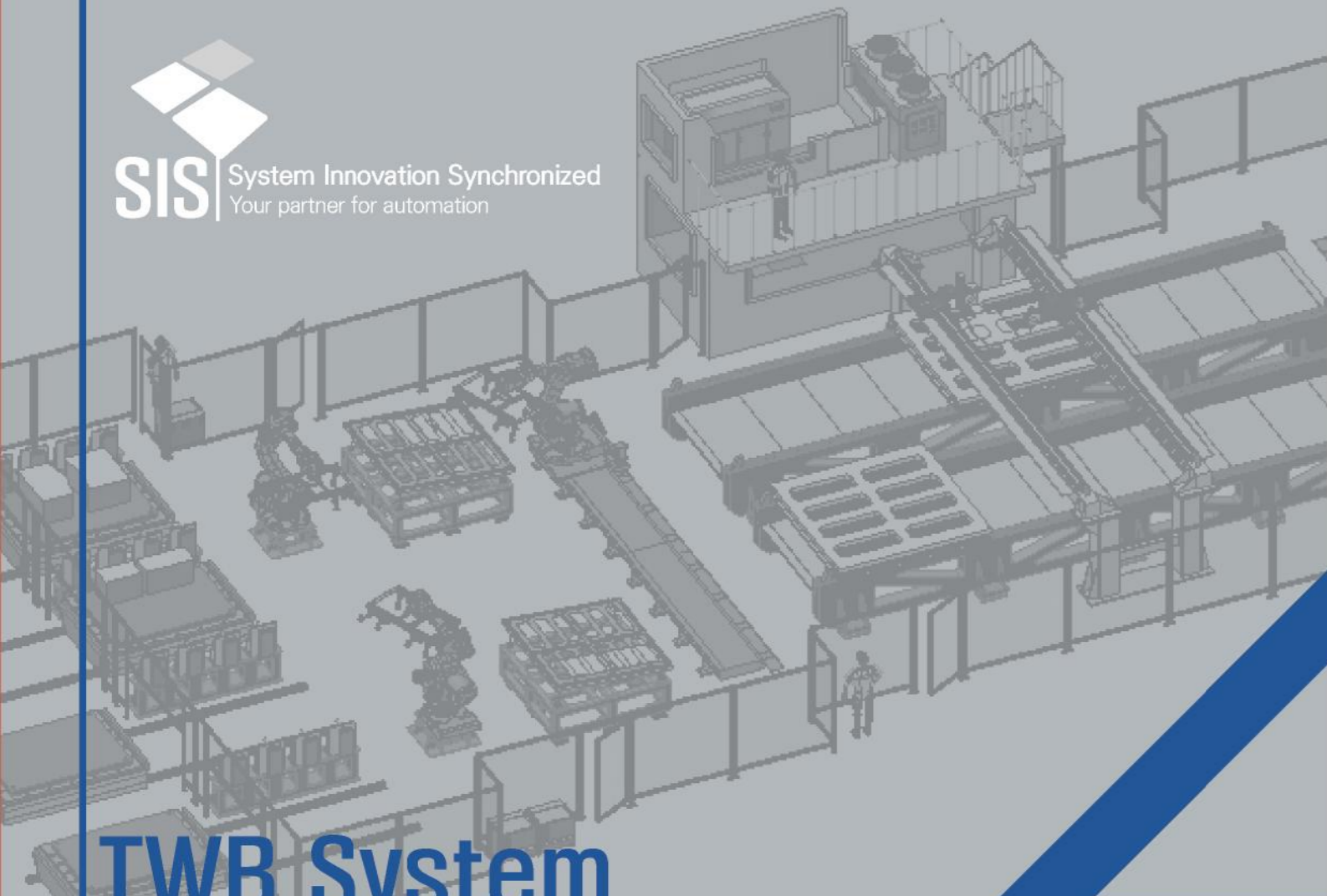
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TWB System (Tailored Welded Blanks)





TWB System (Tailored Welded Blanks)

Description

TWB technology is a cutting-edge automotive steel plate production method which is similar as cutting out a suit where steel plates of different thickness, hardness and material quality are cut in appropriate sizes and shapes and then welded together to be processed into a product. This technology has a lot of advantages compared to the existing spot welding such as weight reduction, simplified parts, improved raw material usability, enforced safety, etc.

SIS Corporation develops and delivers a system that has lower initial investment than leading overseas TWB companies and that can be applied to multiple vehicles that include linear and nonlinear plate materials.

Introduction of system

Common for linear / nonlinear / multi types
Employs optimal welding bed that suits Blank conditions
Intelligent welding module

System configuration

Destacking station / Pre centering station / Welding station / Dimpling station / Stacking station

A sudden change in market

- ⊕ Production capacity of multi-model
- ⊕ Linear / Non-linear
- ⊕ Rapid growth of the Chinese automotive market
- ⊕ Tendency for the size of the blanks

Improvement of vehicle structure

- ⊕ Improvement of the environment
- ⊕ Reduction of fuel consumption
- ⊕ Weight reduction of vehicle
- ⊕ Safety and durability

New processing technology

- ⊕ Manufacturing technology of high tension steel plate
- ⊕ Hydroforming
- ⊕ Hot press forming
- ⊕ Laser welding technology of the car body

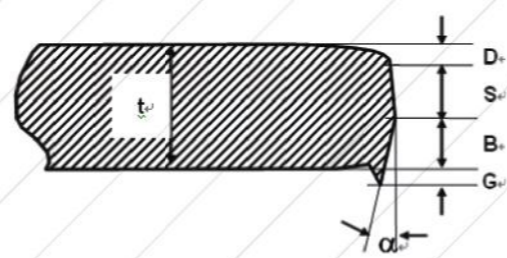
Investment
for
technique

TWB



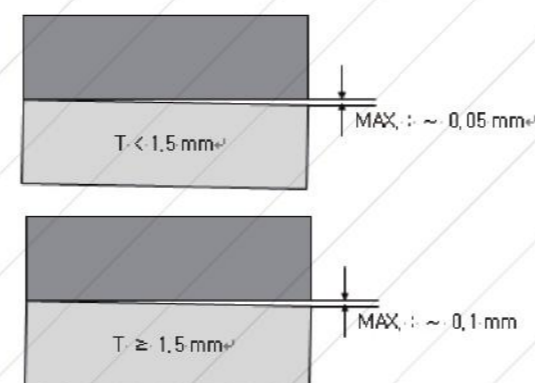
TWB System (Tailored Welded Blanks)

✓ A. State of the cross-section of the material before welding

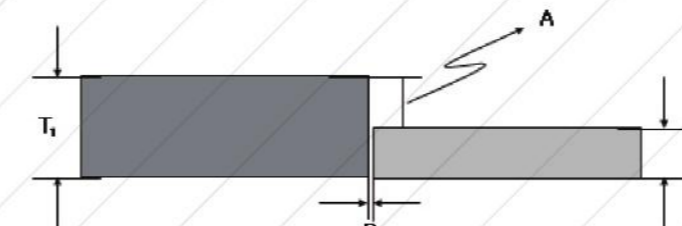


NO	Item	Symbol	Unit	Limit
1	BURR	G	mm	≤ 0.05 t
2	SHEAR TO BREAK RATIO	S/B		> 1
3	BREAK ANGLE	α	Rad	< 0.2
4	PLASTIC DEFORMATION	D	mm	< 0.1 t
5	BURR POSITION			Under or upper side, not changing in a production log

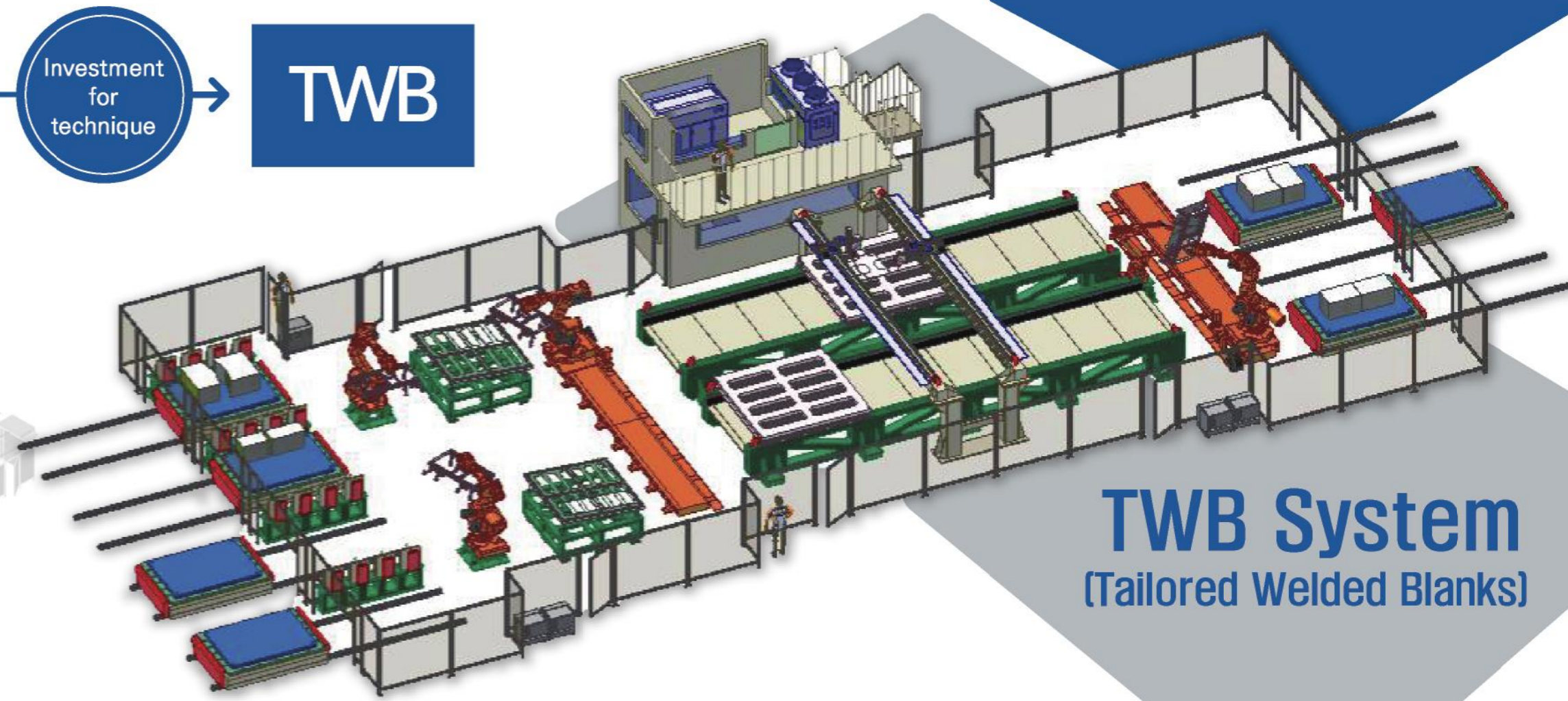
✓ B. Limited range of distance between the materials



✓ C. Combination of blanks of different thickness



- Difference in level of material : $T1/T2 = 3 : 1$
- Material gap: $B \leq 0.1 \text{ mm}$



TWB System (Tailored Welded Blanks)

