
Your vision
becomes our future.
IKP
Best Partner in the Plastic Industry
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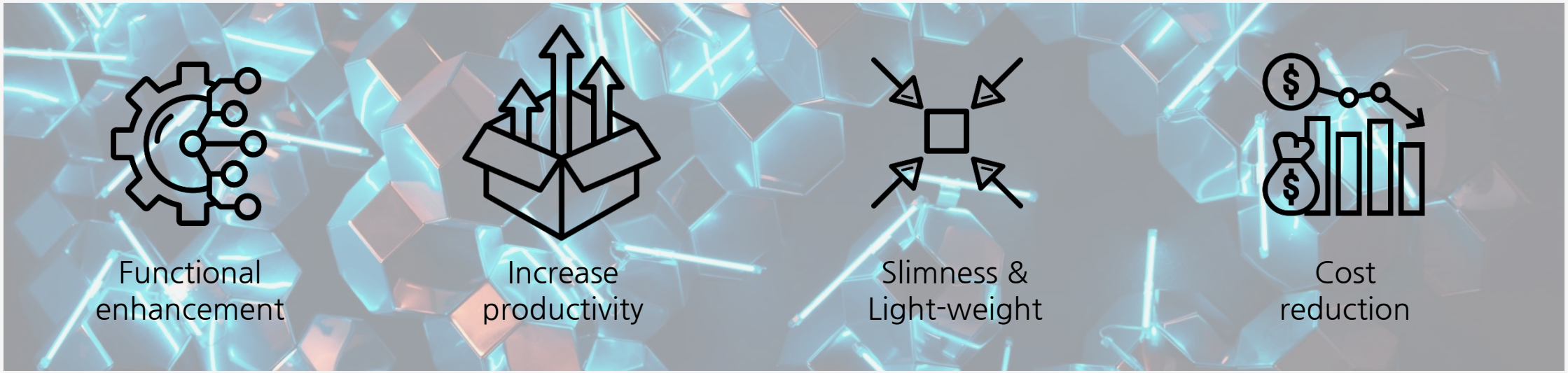
IKP-Patented Metal and Plastics Adhesion Technology

[MPA]

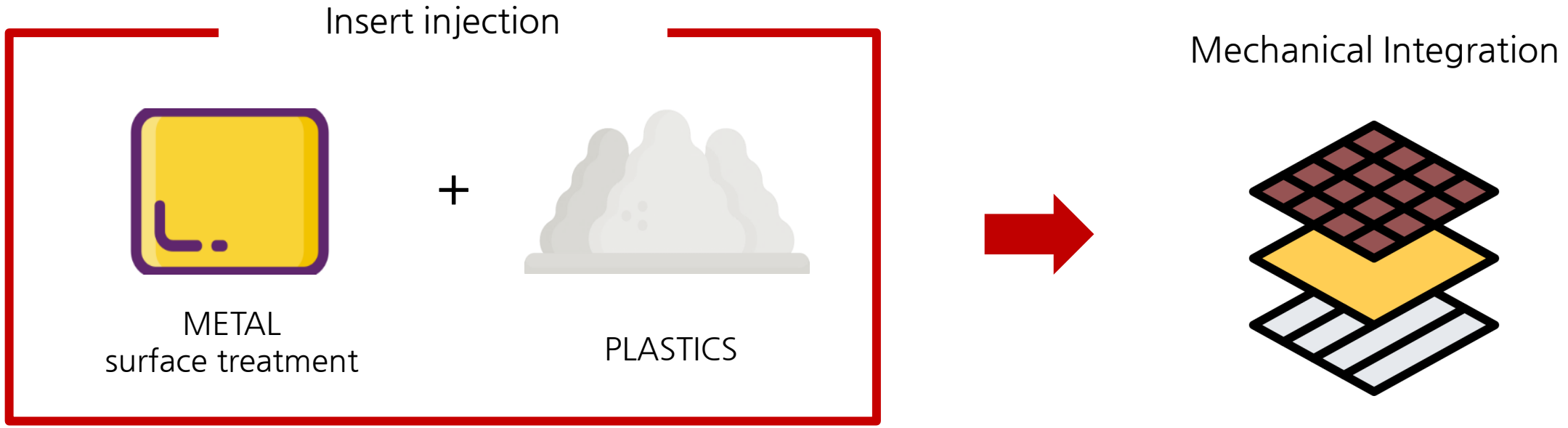
✓ **Metal & Plastics Adhesion technology**

✓ The technology for integrating metal and resin by mechanical bonding alone.
After chemical processing of metal surface treatment, the resin penetrates into the hole when the insert is ejected.



Contribute to product & parts innovation

Summary



Business model and services

- **Contracted processing business :** Chemical treatment of metal surface
- **Part business :** Metal treatment + Injection molding products
- **Technical partnership business :** Royalty contract for MPA technology

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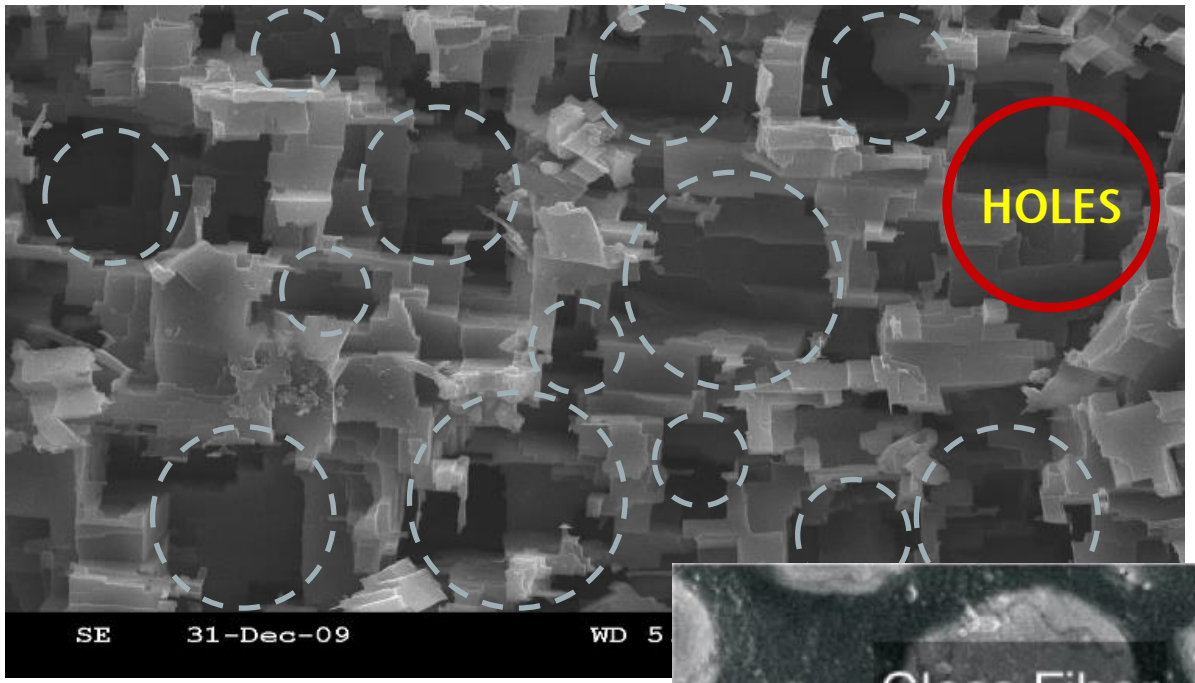
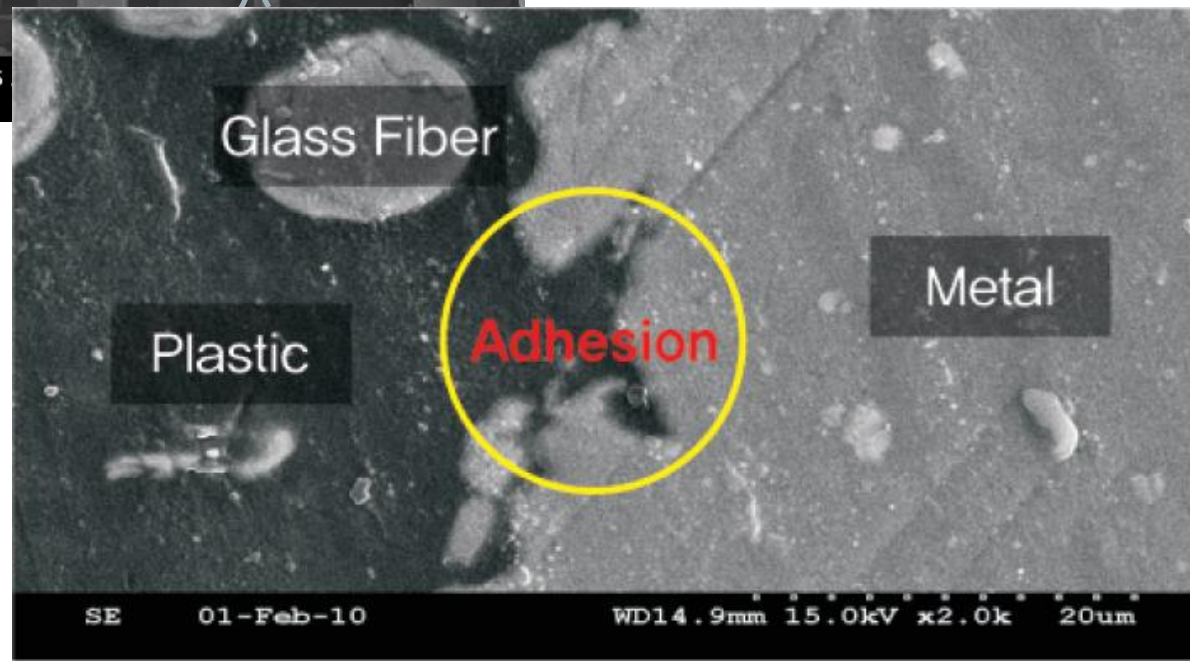


Mechanical adhesion exerted

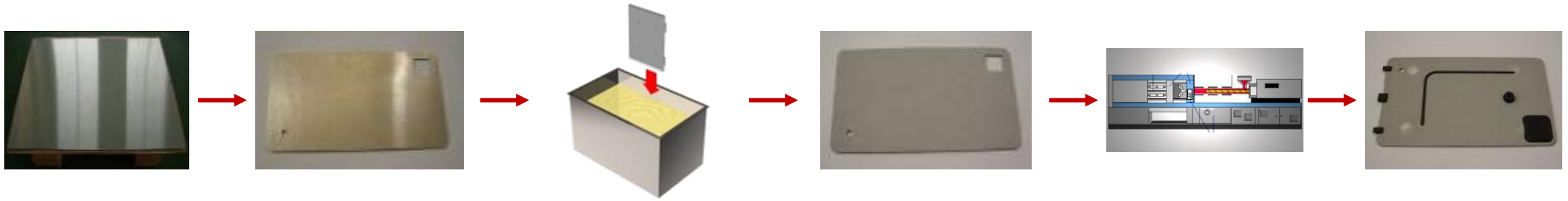
Adhesion by the penetration of resin into the holes



Strong adhesion exerted

Penetration of resin into the area indicated

MPA Technology Process



Effects of MPA Technology

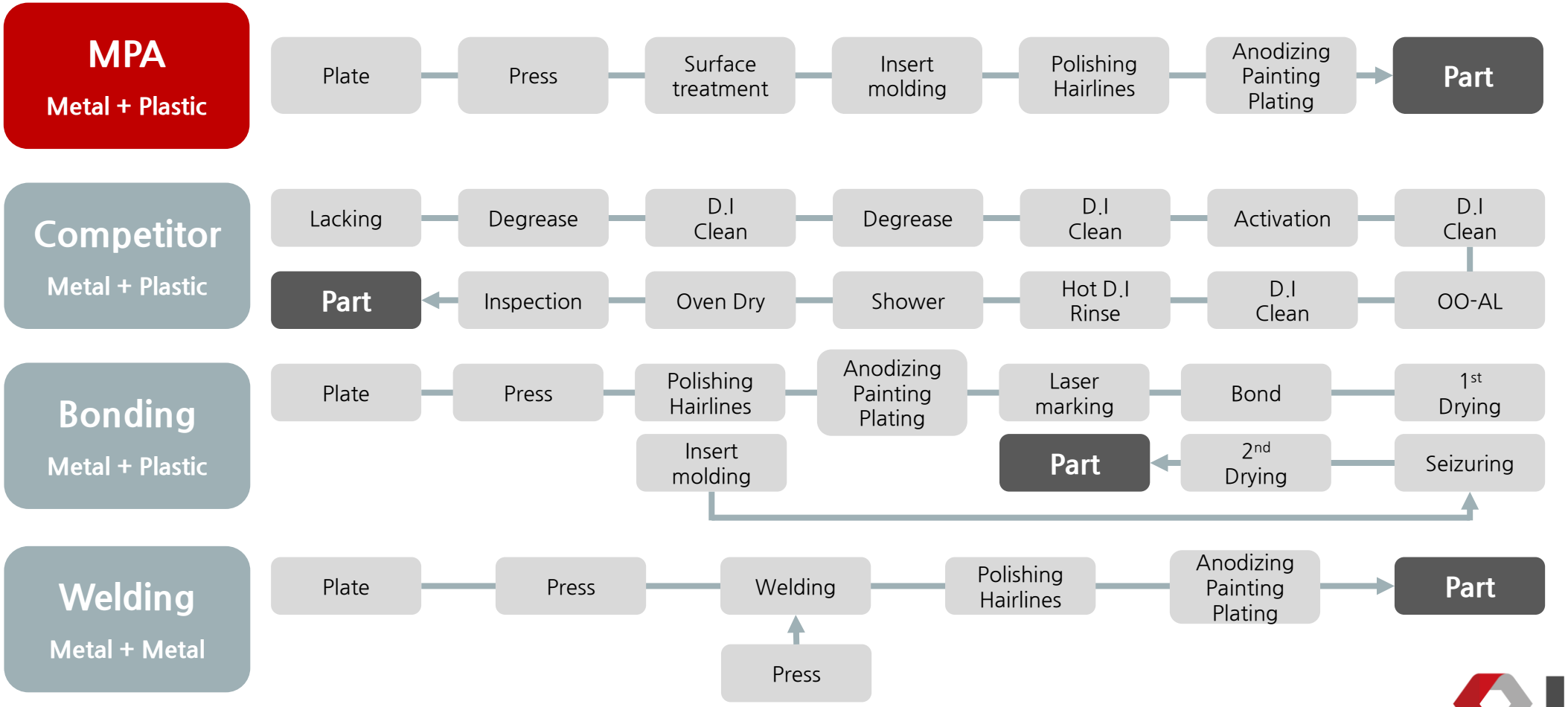
CASE	HOW
Formation of bosses and ribs on the metal body	Tape or Bonding Process skipped
Direct adhesion of metal body and plastics	Water & Helium gas proof
Aluminum + Plastic + Aluminum adhesion	Alternative to Aluminum Welding

Advantages of MPA Technology

1. **Long-term storage** and **long-distance logistics** with common packaging
2. **Productivity increase** and cost reduction by shortened process
3. **Various options** for materials for injection molding- Plastics, Silicone, Epoxy, Rubber etc.
4. Relatively **low effect** of **releasing agents** and **contamination**
5. Al Anodizing : **Enhanced tensile force**

MPA vs Conv. process

MPA is efficient and effective compared to other processes.



Applicable Fields of MPA Technology

Preparation for marketability with **small size, slimness, and light weight**

Flexible design that is not possible in welding and bonding processes

Productivity increase and **cost reduction** by shortened processes

Structural stability and various options for resin

Major Facilities

- Mass production line of MPA : establishment in December 2014
- Automated production facility
- MPA Mass Production and laboratory

Capacity

- 40,000EA/day surface treatment based on 5-inch mobile case

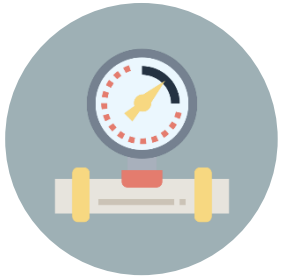
Insert Molding condition

Cylinder temperature

Same as applied resin injection condition

Mold temperature

Injection core actual temperature conditions above 130°C
(In the case of mold upper temperature condition, 110 to 130°C can be adjusted.)



Injection pressure

The cylinder pressure is higher than the injection conditions of the applied resin.
Adjust the packing pressure as well.

Other Conditions

Same as applied resin injection condition

Adhesion guide

Available metals: Aluminum, copper, iron, magnesium, SUS, titanium etc.
Various materials for adhesion: PPS, PPA, PBT, PP, PA, Olefin, Silicone, Rubber, Elastomer

Excellent	Good	Normal	Non-compliance
◎	○	△	X

Metals / materials	Aluminum	aluminum diecasting	Stainless	Copper	magnesium	titanium	Steel
PBT	◎	◎	◎	◎	○	◎	◎
PPS	◎	◎	◎	○			◎
PPA	◎	◎	◎				◎
PA	◎	◎	◎				◎
PP	◎	◎					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