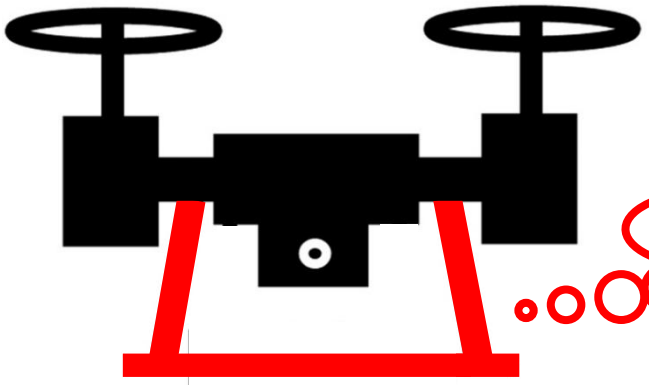
# How about reconsidering the design of industrial drones?



✓ Takes lots of time to assemble airframes
✓ Requires to support various specifications according to each customer
✓ Additional requirement of processing

## Proposal of welded airframes using magnesium alloy pipes

【What is Magnesium?】The lightest metal, with a specific gravity one-fourth that of iron and two-thirds that of aluminum. Its unique combination of lightness and high strength has led to explosive growth in adoption, particularly in mobile devices like laptops and digital cameras, making it a hot new material. Its vibration absorption properties, high recyclability, and safety for both humans and the environment are also drawing significant attention.

【Is Magnesium Processing Possible?】Traditionally, magnesium processing has been limited to die casting and injection molding. We have established bending and welding technologies, including our proprietary cold-drawn tubes, enabling processing equivalent to other metals. Product development using magnesium alloy pipes, such as wheelchairs and furniture, is also progressing.

| | Mg Alloy Pipe | Al Alloy Pipe | CFRP Pipe |
|---|---|---|---|
| Lightweight | ◎ | ○ | ◎ |
| Machining | ◎ | ○ | X |
| Plastic working (bending etc.) | △→◎ | ◎ | X |
| Welding | △→◎ | ◎ | X |
| Coating | ○→◎ | ◎ | △ |
| Cost | ○→◎ | ◎ | △ |
| Recycle | ◎ | ◎ | X |

Advantages using magnesium alloy tubes

By leveraging the advantages of metal, we can achieve the lightest-weight airframe.

1. Achieve various shapes from common materials (such as pipes) through plastic forming and welding
2. Easy to perform additional processing like drilling holes
3. Various coloring options available (we utilize powder coating)
4. Recyclable

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