



# Example of significant cost reduction in universities and institutes by applying repair and installation of cryo pump as a package

## 【Contact】

**KYODO INTERNATIONAL INC.**

<http://www.kyodo-inc.co.jp/>

2-10-9 Miyazaki Miyamae-ku, Kawasaki-shi,  
Kanagawa-ken, 216-0033 Japan  
TEL:+81-44-852-7575 FAX:+81-44-854-1979

email:denshi@kyodo-inc.co.jp

# General situation of facility maintenance in university & R&D institutes



Typically, these public or private institutions has been entrusted maintenance jobs to equipment makers or pump manufacturers (OEM).

## Advantage of OEM

- Reliable in terms of guarantee because of OEM
- Possible to entrust installation/uninstallation of facilities to/from equipment except for repair work itself
- Technical knowledge for consultation is certain advantage
- Exchange unit is available

## Disadvantage of OEM

- Not reasonable price
- Support termination in some legacy equipment
- Lead-time of repaired item is relatively longer
- Less priority on universities and R&D institutes because of less number of installed systems

# Successful cost and lead-time reduction by second-sourcing of cryo pump



- ✓ Detachment of 1 cryo pump
- ✓ Overhaul
- ✓ Installation
- ✓ Lead-time and cost by start-up

OEM(equipment/pump maker)

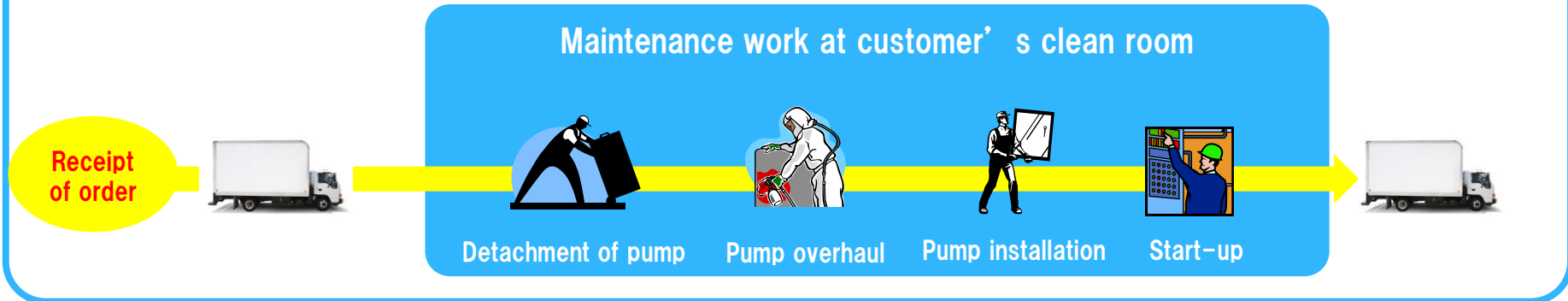
Lead-time : 2 months  
Total cost : ¥ 1,000,000



**KYODO INTERNATIONAL**  
Lead-time : **1 month**  
Total cost : **¥ 500,000**

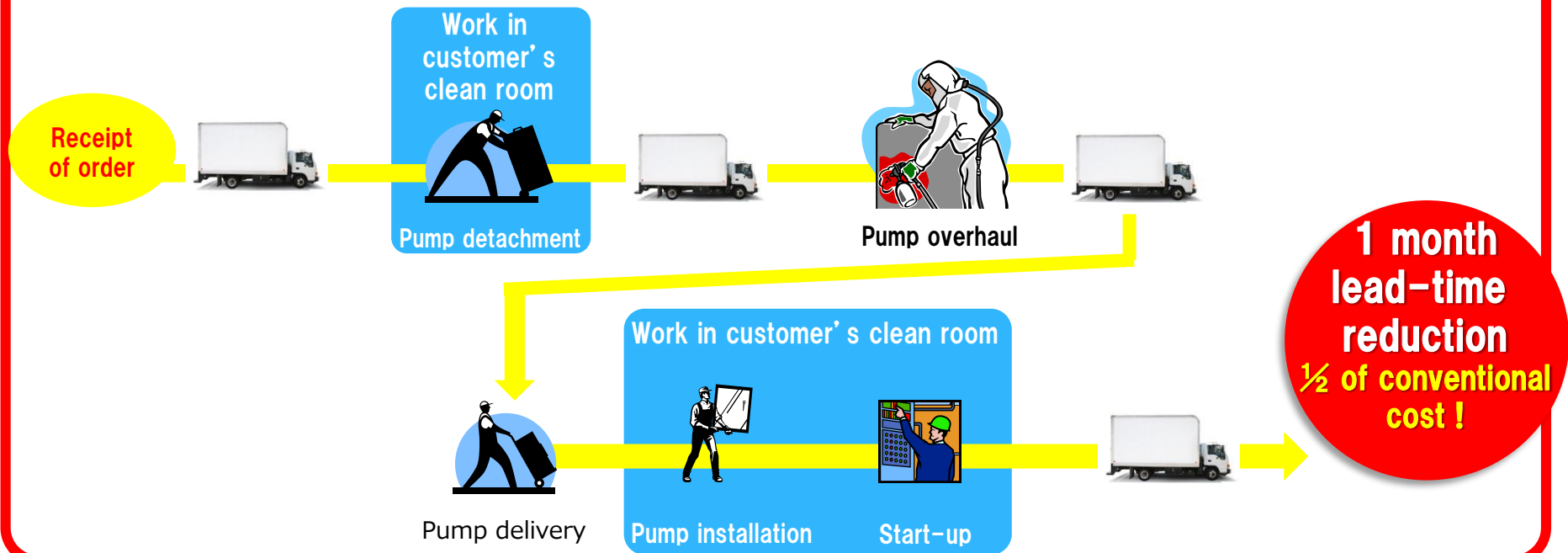
# Case 1 : Equipment/pump maker provides whole maintenance services at customer's clean room

Lead-time 2 months Approximate total cost ¥ 1,000,000.-



# Case 2 : KYODO INTERNATIONAL's total maintenance package

Lead-time 1 month Approximate total cost ¥ 500,000.-



# Features of our Cryo pump repair / overhaul service package



- ✓ Total maintenance services including on-site detachment and installation of equipment as same as OEM services by equipment/pump manufacturers.
- ✓ Not only supporting legacy models, but also provides timely services even for a small volume.
- ✓ Exchangeable units are available for pumps of higher demand.
- ✓ Abundant knowledge through expertise of hundreds of repair enable us to correspond to all sort of requirement.
- ✓ Repaired pumps come with equivalent guarantee as manufacturers.
- ✓ Overhaul services in reasonable cost give a lot of advantage for customer.

# Detail of Cryo pump repair / overhaul services

## Feature

- Quality assurance of standard replacement parts
- Stress test (up to 10Kg) for reliable quality
- Thorough drying for Second array and Displacer



## 【Flow chart】

〔 60℃  
24H 〕

Cooling & actuator area



Vacuuming area



Functional test



Shipping

Displacer, Valve plate  
 Crank case, Drive unit  
 Drive crank, Drive motor  
 Cylinder cleaning

Housing, Array  
 Vacuum safety valve cleaning

Rafting ventilation, Build-up  
 Cool-down, Heater loading

Pump drying, Sealing-off

## 【Functional test】

