

## HAL for Labor Support (Lumbar Type) verification trial expands in Japanese airports ~Its effects to reducing the workload for various airport tasks will be verified~

(Provisional translation by CYBERDYNE, Inc.)

All Nippon Airways Co., Ltd. (Headquarters: Minato-ku Tokyo, President and CEO: Osamu Shinobe, “ANA”) and CYBERDYNE, Inc. (Headquarters: Tsukuba, Ibaraki, President and CEO: Yoshiyuki Sankai, the “Company”) plan to expand the tasks included in the current verification trial of HAL for Labor Support Lower Limb Type (“HAL”) , aiming at further reduction of workload in the airport.

ANA group confirmed the effect of HAL to reduce the workload in the baggage handling tasks within the Narita Airport after the verification trials that commenced in November 2016. Following this result, ANA determined to accelerate the verification by implementing additional units of HAL in April 2017, leading to expansion of verification to ground handling tasks, logistics of airplane parts and various other tasks within the airport that ANA is involved in.



Transferring passenger luggage on containers



Handling cargo in the cargo shed

As HAL is capable of reducing the stress applied on the lower back areas upon lifting or transporting heavy weight, it makes workers tasks easier, and also reduces the risk of back injuries. Utilization of HAL for these tasks, is anticipated to improve the work environment and decrease work related injuries. ANA group, will continue its effort to reduce the workload and improve the productivity in order to structure a work environment attractive for all of its workers.

### ◆ Outline of the verification

- Duration: From April 1, 2017 to End March, 2018
- Task to be verified:  
Baggage handling, cargo handling,  
carrying or transporting airplane parts etc.
- Objective of the verification:  
Verifying the reduction of stress applied on the lower back part and improvement of productivity upon lifting and carrying heavy weight
- Airport used for verification: Major airports in Japan
- Units used for verification: 25 units



HAL (Hybrid Assistive Limb), made by CYBERDYNE, Inc. is known as the world's first cyborg-type robot that could regenerate, improve, support and expand the wearer's physical functions. HAL reads the intention-based bioelectrical signals generated by brain and nervous systems and supports the intended movement of the wearer. HAL for Labor Support (Lumbar Type) is now implemented in various industries such as heavy duties in factories, construction and assisting rescue missions in disaster site. Together with HAL for Care Support (Lumbar Type) that is mainly used in the field of welfare and medicine, it is anticipated that HAL for Labor Support will spread in wide variety of industries in Japan and around the globe.