

COMPANY ANNOUNCEMENT

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# ESA signs contract with Danish Aerospace Company A/S for an extra E4D

Danish Aerospace Company A/S (DAC) has now signed the contract with ESA for an additional E4D model and more spares. This happened after formally being requested to make an offer for yet another flight model of the company's future E4D-multifunction exercise equipment back in June of this year. (DAC Company Announcement no. 27).

This contract now ensures ESA and NASA will have a full spare flight model available on ground when the equipment will be launched and become part of the standard complement of exercise equipment for the astronauts on the International Space Station ISS.

- DAC is now contracted to develop two flight- and three ground models of the new multifunction/crosstrainer equipment for astronauts for the European Space Agency (ESA) called E4D - Enhanced European Exploration Exercise Device.
- The E4D equipment combines cycling, rowing, rope pulling and 30+ other weightlifting exercises in one machinery, which gives the astronauts a full body workout and a broader exercise flexibility in their daily training in space.
- E4D was initially supposed to be used as a technological demonstration model on ISS and thereby be a precursor for the subsequent versions to be used later, on the Moons Space Station
   Lunar Gateway and manned expeditions to Mars.
- NASA has recently expressed a wish to also use the equipment operationally, e.g., for a full
  operational exercise equipment for all non-Russian astronauts on ISS. This means there is a
  need for an additional flight model, which can be held as a spare, should parts on the existing
  flight model need servicing or replacing.
- NASA and ESA will test and use E4D on ISS. The first flight model of E4D is expected to be launched in 2023 for initial testing before entering full operational service.
- The new supplemental contract value is MEUR 1,15 or approx. MDKK 8,55, with a small option for additional services of KEUR 50.
- As previously announced, this contract is not expected to affect the company's previously announced expectations for 2021, as the additional model's delivery is targeted for 2023.



"It is great for DAC to finally have the signatures for this additional E4D flight model for ESA. We have been looking forward to this for some time and are happy to once again be acknowledged for the innovative work we do. Further, we see this as a confirmation of the long and strong collaboration we have with both ESA and NASA. This will help to ensure a good foundation for DAC in the coming years," says Thomas A. E. Andersen, CEO. "We look forward to seeing what other opportunities E4D and our other products will bring DAC. Human Spaceflight is right now in a fascinating time, with numerous new Space Station projects being announced and under development."

#### **Additional information**

Danish Aerospace Company A/S has developed the prototype of the new advanced exercise equipment called E4D (Enhanced European Exploration Exercise Devices) under contract with ESA. NASA and ESA's EEDD-panel, (Exploration Exercise Device Downselect), evaluated DAC's E4D multipurpose equipment in the fall of 2019. It was compared to another US equipment in order to recommend which one NASA and ESA should continue to work on for future human travels to the Moon and beyond.

The prototype was tested for 7 weeks at NASA's Johnson Space Center in Houston, Texas. Among the 25 test subjects were 14 experienced astronauts from NASA, ESA and the Japanese Space organization JAXA. In total, 11 male and 3 female astronauts, all of which had previously flown in space and used existing exercise equipment on the International Space Station ISS, tested E4D. They represented one third of all active and available NASA astronauts.

The EEDD-panel, which consisted of 7 experts from NASA and 3 from ESA, unanimously recommended E4D as the equipment to explore further for Artemis, Lunar Gateway and manned Mars-missions.

The new exercise equipment is based upon DAC's more than 30 years of experience with space ergometers and respiratory measuring equipment for human spaceflight.

This company announcement contains inside information.

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# **About Danish Aerospace Company A/S:**

Danish Aerospace Company (DAC) is a high-tech company operating in the area of advanced medical instrumentation and other engineering fields primarily within space applications.

Our products are based on many years of specialized research and development. These consist of developing, integrating, and applying new as well as established medical technologies to the challenges of functioning and remaining reliable in space. These products and services bring the potential of space research and experience from space operations down to Earth for the benefit of all mankind.

Danish Aerospace Company employs engineers and technicians who deliver full engineering, production and technical services for our customers. We have specialized in customer specific design, development, manufacturing, certification, maintenance, testing, and operations.

The company has developed five generations respiratory equipment for spaceflight, ergometers for astronauts, countermeasures, adapted several commercial medical equipment for spaceflight and has participated in the development of the minus eighty-degree Celsius freezers.

The Company's quality system is certified in obligation to BS EN ISO 9001:2015, BS EN 9100:2018 technical equivalent to AS9100D that is the acknowledged standard in the area.

**Note:** This is a translation of the corresponding Company Announcement in Danish. In case of discrepancies between the Danish wording and the English translation, the Danish wording prevails.

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