

Looking Under the Top - The Story Behind Electric Sit-Stand Desk Technology

As our industry has been forced to take a “breather” during this unique time, many of us have been working from home and separated from the insights and engagement we typically experience in the office. We may even find ourselves looking at work-life differently as we are likely compelled to find inspiration elsewhere. A consistent inspirational source are the stories of our past – and this is the story about the start of the electric height-adjustable table many know now as the HAT category.

Many design trends have changed the

office environment over the years, but few have positively affected the individual user in a workspace quite like the electric sit-stand desk. Though standing desks have been around for centuries, the technology behind the electric sit-stand desk has only been around for just over 20 years. Other types of manual height-adjustable options like pin, crank and pneumatic have existed for decades, but nothing compares to the convenience of pushing a button to achieve better ergonomics, health and wellbeing while working at your desk. With a long list of benefits for the user, you may think



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that everyone would have one by now. But where height-adjustable technology may be common for the early adopters and tech giants, the trend is still rippling through to multitude of businesses, and now, even people's homes.

So where did the technology inside these desks start? You may be surprised that first electric height-adjustable system for desks came from a company whose products

originally focused on movement in medical applications like hospital beds. In the early 1990's, LINAK was a growing linear actuator company headquartered in Denmark and while expanding globally, they were also growing business areas outside of medical applications. Entrepreneurs at the time came to LINAK looking for better ways to improve ergonomics and working comfort in niche areas such as workstations

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for architects, engineers, photographers, and special needs applications for kitchens and bathrooms were asking for help. In response, LINAK would customize medical and industrial actuators to help companies make their workstations electrically height adjustable. Workstation manufacturers found it difficult to create stable leg guidance that was moved separately by the actuator and struggled to keep them running

smoothly for their customers. For many manufacturers, and end users, the workstations ended up being a costly and “wobbly” experience.

“The development of a complete desk system didn’t come from this vision of a big opportunity for LINAK, it came from us wanting to have a solution that made it easier for our customers to build workstations,” said John Frost, division president and execu-

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John Frost Division President & Executive Vice President



Michael Cook, senior business development manager at LINAK U.S.



Stig-Nielsen, president of LINAK U.S

tive vice president at LINAK. “There were two needs we wanted to address: make it easier and make it more affordable.”

To do this, LINAK would need to develop a new product specifically for desks, and utilize their experience, technology and capabilities from existing product lines. With actuators running in parallel for hospital beds and numerous types of glide pads for medical applications, and a history of in-

novating firsts, LINAK was up for the challenge. The company was built on creative thinking. In fact, the slogan “we improve your life” was born from founder Bent Jensen’s design of an electric linear actuator to adjust his disabled friends’ wheelchair.

“We gave the task to six engineers, three mechanical and three electrical, and before you knew it, we were presented with a promising concept of a two leg electrically



DESK LIFT 1 (DL1)

height-adjustable system,” said Frost. “The real innovation in this new product would be in the relationship between the motor, spindle, and guidance systems to control the near perfect frictional tolerances throughout the leg movement. While the design aesthetic was very important, the technology inside the leg was what truly mattered.”

In late 1998, LINAK caught the indus-

try by surprise and launched the first ever complete electric height-adjustable system for desks. The system included a desk panel switch to easily adjust height, an advanced control box for smooth desk movement, and a revolutionary “electric leg” for desks called DESK LIFT 1 (DL1). After the launch, the focus was to help customers make the transition to the new solution. LINAK did not anticipate how

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LINAK headquarters in Denmark

successful this technology would be adopted, especially in northern Europe. The demand grew rapidly as electric height-adjustable desk systems spread outside of industrial workstations to office desks. By the early 2000's, sit-stand desks had become the "norm" in Scandinavia and were rapidly gaining ground throughout the rest of northern Europe. Many furniture manufacturers joined in to champion the benefits

of height-adjustable technology to improve ergonomics in the workplace. By working to find a solution for their customers, LINAK had unknowingly helped to ignite a global trend.

There were still some late adopters to the technology though. Despite its swift growth in Europe, the biggest potential market at the time, North America, had yet to adopt the trend.



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“The main obstacle at the time was a lack of awareness amongst furniture manufacturers and end-users in America,” said Soren Stig-Nielsen, president of LINAK U.S. “It was not easy to promote this product in the U.S. with limited resources and eight employees. We had to create awareness before we could expect demand.”

Even as several key US innovators in ergonomic furniture adopted the new technol-

ogy, the trend of electric height-adjustable desks did not proliferate in North America until the news media coined the phrase “sitting is the new smoking” in mid-late 2000’s. After that, the market awakened and began to understand the benefits of active working and not sitting all day at their desks. From ergonomics and health to collaboration and productivity, businesses began to see the advantages of adding electric sit-stand

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desks to their employee benefits.

“From then on, the U.S. furniture industry was very welcoming,” said Stig-Nielsen. “By offering proven quality solutions to the office furniture OEM’s we quickly built many great relationships with companies that we still have today. Being able to provide customers with all the technology they needed underneath a desktop made it easy for them get a sit-stand desk to the market. It was

great to be a part of a movement like this that really changed the office as we knew it.”

Although the sit-stand desk market has seen impressive growth the last 5 years, it is not near its peak. In fact, Stig-Nielsen estimates that the market volume could double between 2020-2025. Meaning there are still a lot of companies and people who are not getting the health and productivity ben-

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A man with a beard, wearing a brown long-sleeved shirt and grey trousers, is standing at a white height-adjustable desk. He is looking at a computer monitor that displays a technical drawing of a tower with the text 'AMS' above it. The desk is in a bright, modern office with large windows in the background showing a city skyline. A blue office chair is positioned in front of the desk. To the right, another white height-adjustable desk is visible, featuring a pink office chair, a desk lamp, a water bottle, a glass, a small potted plant, and a bowl of snacks. A whiteboard with various charts and papers is mounted on the wall behind the second desk. The floor is made of light-colored wood.

efits of electric sit-stand desks. The LINAK technology inside millions of adjustable tables around the world is an example of the company's dedication to changing this narrative. LINAK continues to be a leader in innovating and evolving its technology to meet user and market needs, but it is also encouraging the furniture industry to think differently. And with height-adjustable technology being used in a variety of spaces,

they see a big part of the future for height-adjustable technology being driven by customization and flexibility.

“As we work with highly creative interior and industrial designers in the furniture industry, the focus isn't just on motivating people to stay active, it's also on inspiring organizations to create spaces that are unique, functional, and flexible enough to adapt to different working styles and

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needs,” says Michael Cook, senior business development manager at LINAK U.S. “Designing versatility and configurability can mean many different things. Having a vast product program, unmatched engineering experience and willingness to customize really helps us give customers every tool they need to inspire the workforce of today and tomorrow.”

Though more people are adopting electric

height-adjustable technology, the reasons why are continuously increasing. Businesses may choose sit-stand desks because of the health benefits for their employees. End users might like the technology because of the digital reminders to move or the advanced anti-collision technology that prevents crushing forgotten objects under their desk. Furniture designers may use electric height-adjustable technology



to bring movement to hidden privacy walls or collaboration spaces. People who work at home may appreciate the ease of assembling a sit-stand desk that they just have to click together in a few easy steps. Today's height-adjustable technology must keep evolving and cater to all these different groups to keep the global trend momentum.

The DL1 was innovative 20 years ago, and it continues to win awards in customer

designs today like Best in Innovation at NeoCon. As working styles will change, so will furniture design and functionality. Being deeply rooted in the will to change, provides LINAK a unique drive to adapt and address the known and unknown challenges. But, the experience of innovating so many firsts are what motivates LINAK to continue to take adjustable furniture design to the next level. 