



Physics in Lund gets a boost, or two!

How a Vice-chancellor charms Malmö politicians and secures an institute of technology in Lund, and how a new type of spectroscopy is introduced.

Sweden needs more engineers!

Around the middle of the 1950s, both politicians and industrialists realised that Sweden required more engineers to ensure industrial expansion in the coming decades. Thanks to the baby boom of the 1940s, many teenagers were heading towards higher education.

A working party at the Ministry of Education and Science proposed that the number of students at the Royal Institute of Technology (KTH) in Stockholm and Chalmers Institute of Technology (CTH) in Gothenburg be considerably increased.

But what about Scania?

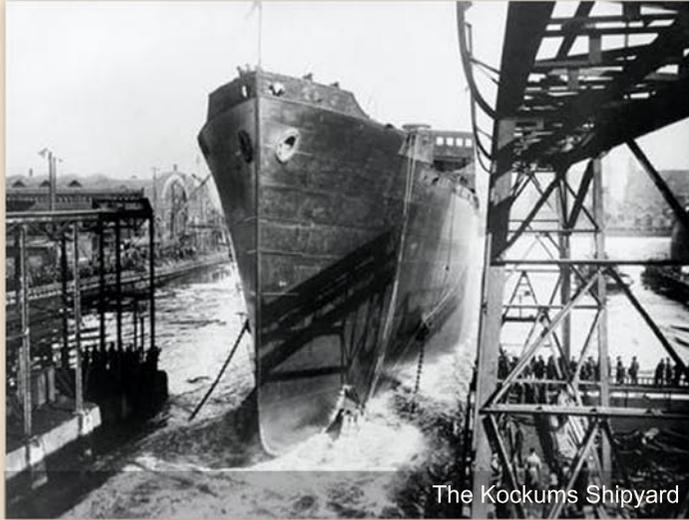


The Royal Institute of Technology (KTH) in Stockholm.



Chalmers Institute of Technology (CTH) in Gothenburg.

Not in Stockholm or in Gothenburg ...



The Kockums Shipyard



Important industries in Scania
The Scanian Cement Works,
later to become Skanska.

The Scanian Engineers' Club, SIK, were quick off the mark. They had observed that students from Scania (Skåne, the southernmost province of Sweden) who had studied at KTH or CTH often returned home to look for employment. Also, relatively few students from Scania studied engineering – clearly because there were no such programmes available in Scania.

A small but active group, including representatives from SIK, Lund University and the borough of Malmö, lobbied for the establishment of higher education in engineering in Scania.

... and not in Malmö either!



Philip Sandblom

Vice-chancellor of
Lund University 1957-1968.

Until 1958, the plan was to locate the new Scanian institute of technology in Malmö, but attention was turned towards Lund, in large thanks to the arguments presented by Professor Philip Sandblom, then the Vice-chancellor of Lund University. He pointed out that, as well as the teaching staff, Lund University had a strong tradition in subjects that would be of importance for a new institute of technology, such as physics, mathematics, and chemistry.

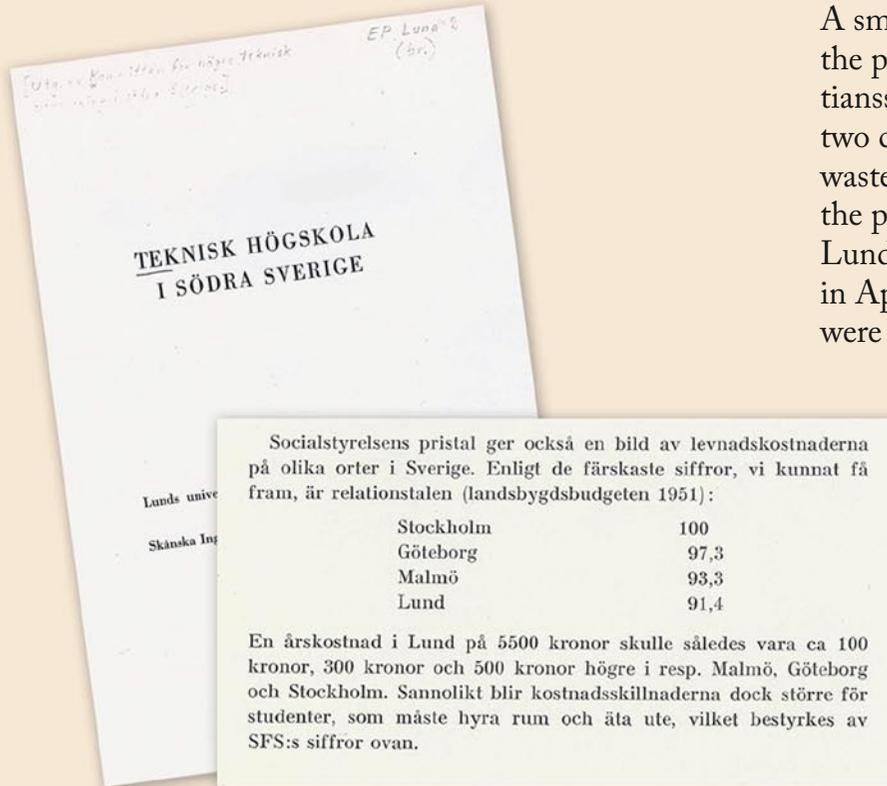


The Department of Physics.

A succinct but significant study

A small committee, including Professor Sandblom, the physicists Sten von Friesen and Krister Kristiansson, the mathematician Åke Pleijel, and the two chemists Erik Larsson and Gösta Ehrenswärd, wasted no time in completing their study to assess the possibility of teaching engineering subjects in Lund. The report from their study was completed in April 1959, and courses in engineering physics were started in Lund just two years later, in 1961.

An Institute of Technology in Southern Sweden – A Study Under the Direction of Lund University and The Scania Chamber of Commerce in Collaboration with The Scanian Engineers' Club and the Lund University Students' Union.



The report submitted was only 23 pages long, but despite its brevity it presented the advantages of establishing higher education in engineering in Lund, for example, the lower cost of living for students!

The Lund Institute of Technology is born



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Initially, the Lund Institute of Technology (LTH) was an independent establishment for higher education, like its counterparts in Stockholm and Gothenburg. It was run by an organising committee under the auspices of the Ministry of Industry. However, its status was far from clear, and lively discussions developed towards the end of the 1960s.

Most of the *engineers* wanted its independent status to continue, while representatives of the University argued that the symbiosis between the two establishments would be beneficial to all. The organising committee was divided.



A compromise

It was not until a group of experts was appointed with representatives outside the University that a unanimous proposal was put forward. In 1968, the Swedish Parliament decided that LTH should be an institute of technology, constituting the Engineering Faculty of Lund University.

Most of LTH's lecturers and students did not welcome this decision. Many remembered the early days, when decisions could be made easily and quickly, and job satisfaction combined with a pioneering spirit led to continuous development and expansion.

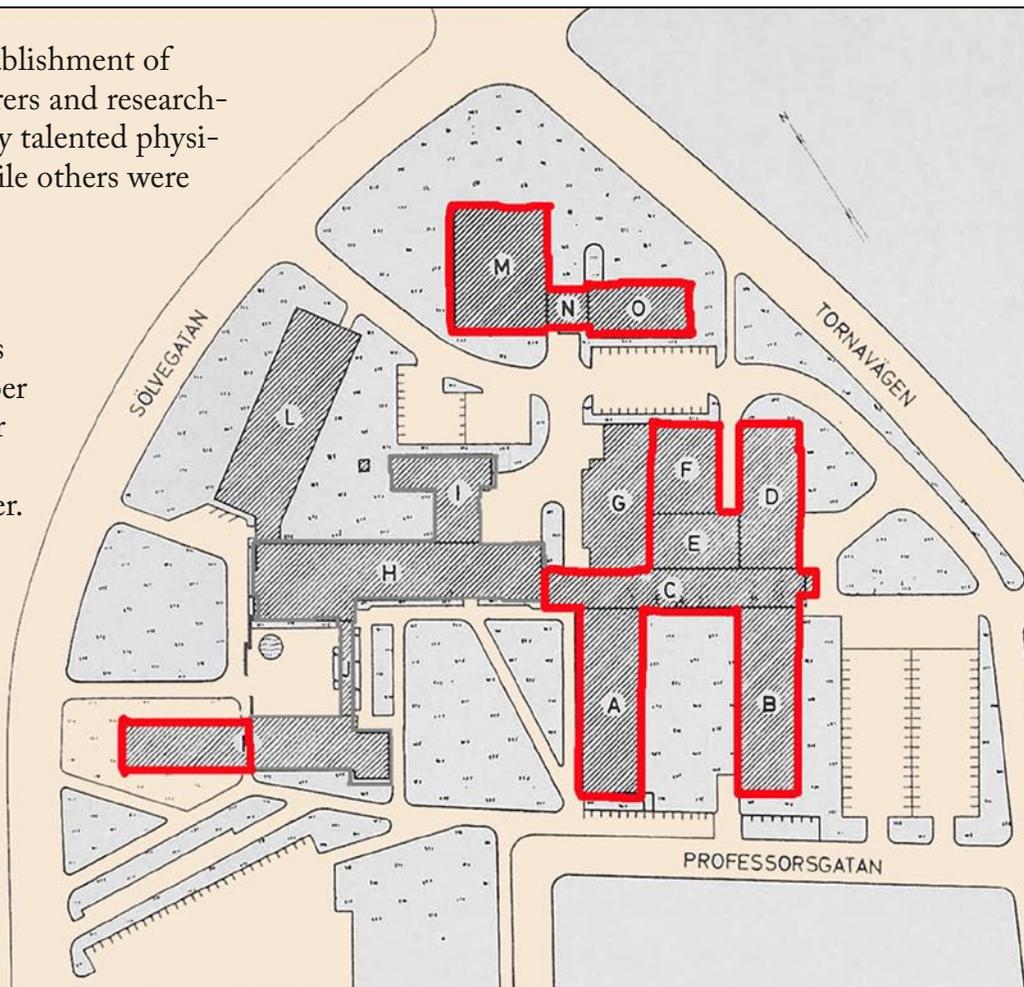


The first engineers graduated in Lund in 1965; here seen showing off their graduation rings. Inger-Lena Lamm, in the centre of the photograph, went on to obtain a PhD in the field of deformed atomic nuclei under Professor Sven Gösta Nilsson, and later worked as a medical physicist at Lund University.

A boost for physics in Lund

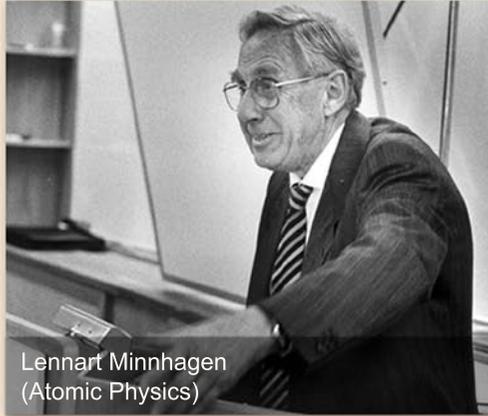
Apart from the new students, the establishment of LTH meant that the number of lecturers and researchers in physics grew considerably. Many talented physicists were able to remain in Lund, while others were recruited from other seats of learning.

Prior to 1961, the subject of physics had four professors and two assistant professors. In 1969, six new professors were appointed, together with a number of lecturers, bringing the total number of academic staff in physics to twenty, more than tripling the original number.

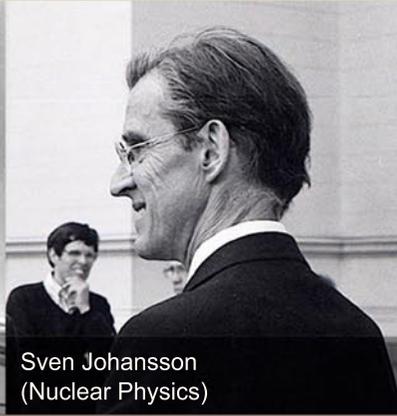


The expansion of the Department of Physics (in red) following the establishment of LTH.

Physics flourishes in Lund



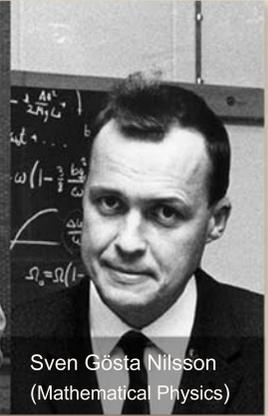
Lennart Minnhagen
(Atomic Physics)



Sven Johansson
(Nuclear Physics)



Hermann Grimmeiss
(Solid State Physics)



Sven Gösta Nilsson
(Mathematical Physics)

Three of the new professors at LTH, Lennart Minnhagen, Sven Johansson and Sven Gösta Nilsson, had previously worked at the Department of Physics. Two other physicists from Lund, Hellmuth Hertz and Lennart Stigmark, became professors in Electrical Engineering at LTH. The number of other staff increased, as did funding and the size of the actual department, in an unparalleled expansion of intellectual and material resources.



Ulf Uhlhorn
(Mechanics)



Lennart Stigmark
(Electronics)



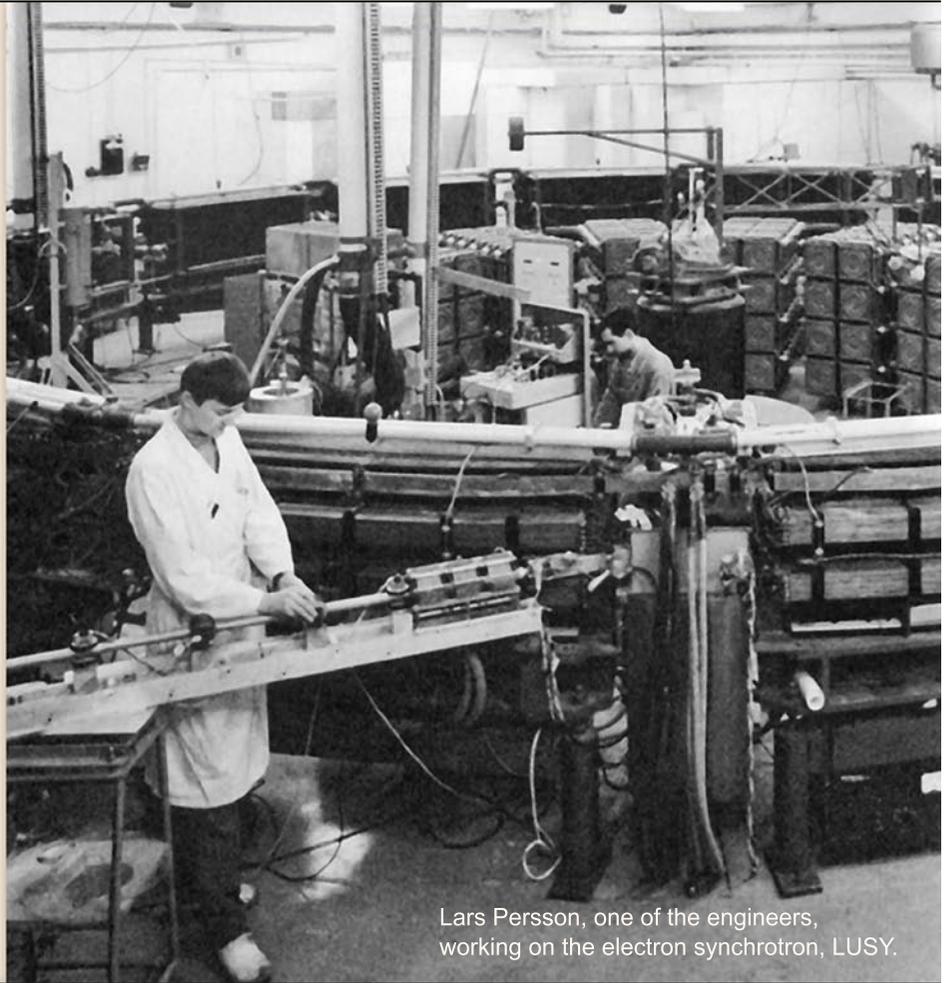
Hellmuth Hertz
(Electrical Measurements)



LUSY is dead – long live MAX!

Research in the field of subatomic physics suffered a considerable setback in 1972 when the Nuclear Research Council announced drastic cutbacks in their financing of LUSY, the Lund University Synchrotron. Funding was reduced from 3.4 to 1.2 million SEK per year, and the number of positions from 30 to 9.

The Faculty of Science at Lund University was unable to compensate for this reduction and, somewhat surprisingly, help came from LTH.



Lars Persson, one of the engineers, working on the electron synchrotron, LUSY.

MAX – Microtron Accelerator for X-rays

LTH took over responsibility for two important positions and, by coincidence, was also able to provide room for a new facility: MAX-lab.

The idea of creating a source of high-energy electrons arose from discussions between physicists in Lund, at first hand Bengt Forkman, and the Swedish scientific research councils.

The concept was later extended to include synchrotron radiation; an extremely powerful and well-defined light source. One could almost say that MAX rose, like a phoenix, out of the ashes of LUSY.

During the development of the project, the skilled workshop staff at the Department of Physics proved to be an invaluable asset, allowing considerable savings to be made in the design and construction of much of the equipment.



Leif Thånell, research engineer.



Nils-Erik Persson, instrument maker.

One machine hall too many

Where to house the new facility?

The buildings used to house the various departments of LTH were constructed according to the standards and requirements of the 1950s. Large-scale experimental work was to be carried out in two machine halls, each 1600 m². The equipment in the northern machine hall was considered to be outdated, and the University Board decided this would provide a suitable location for the MAX project.



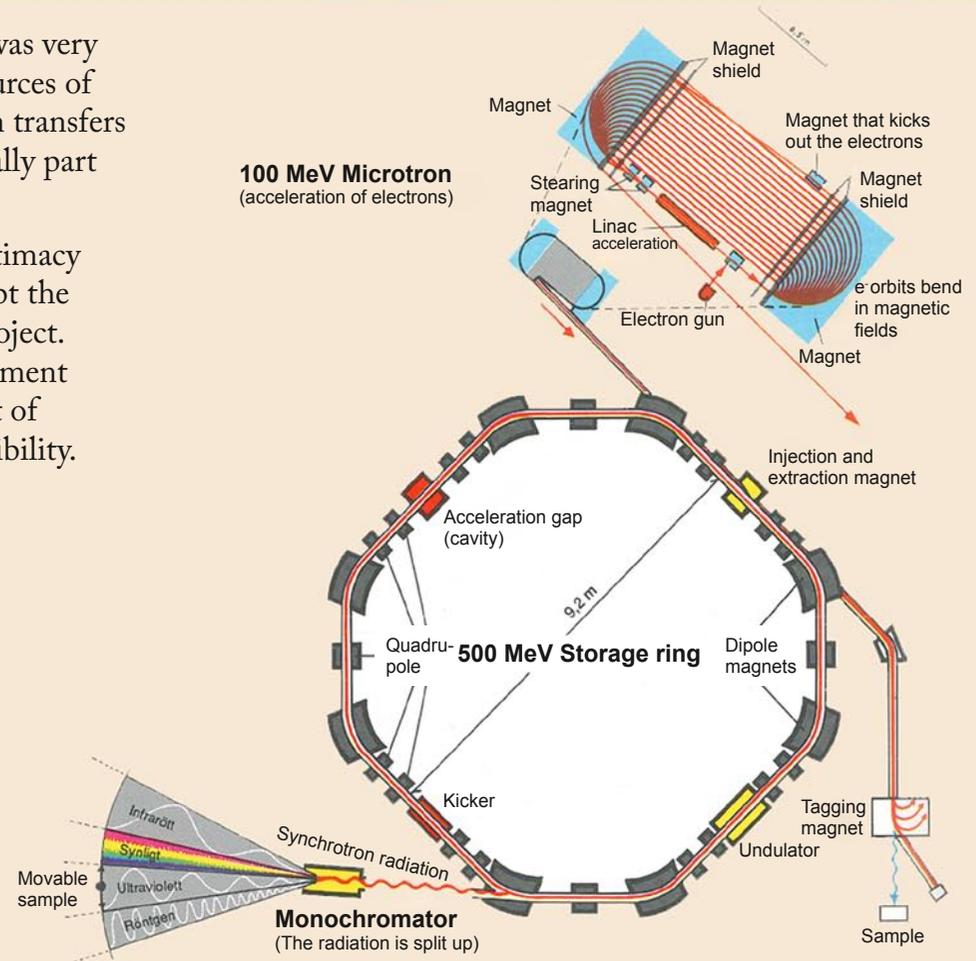
From the left:

Bengt Forkman (Director of MAX-lab), Lillemor Persson Ekstedt, Mikael Eriksson (chief designer and head of experimental activities), Leif Thånell, Lars Johan Lindgren, Lars Gösta Johansson, Lennart Lundin, Nils-Erik Persson, Wilhelm Key, Olle Cederholm, Lars Hansson, Bo Persson, Mats Nilsson, Werner Stiefler, Bengt-Erik Wingren, Kurt Hansen, and Johnny Roslund.

Towards a national laboratory

The decision to locate MAX-lab at LTH was very controversial. It meant a drain on the resources of the Faculty of Engineering, at a time when transfers between different faculties were not normally part of University policy.

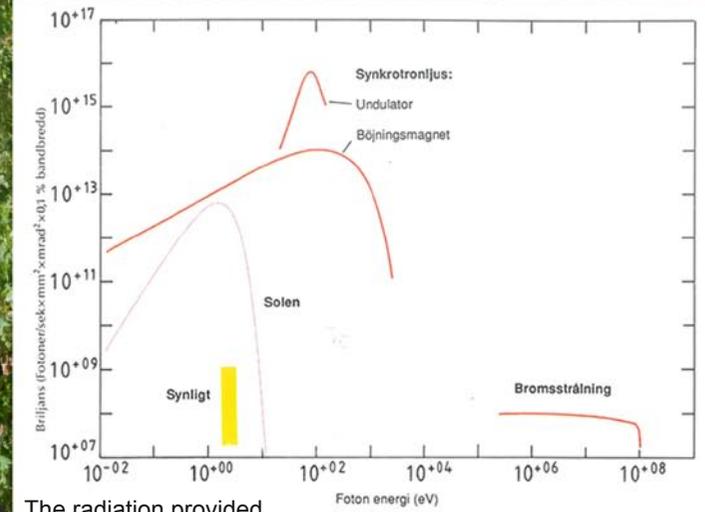
However, the decision afforded MAX legitimacy with central authorities; no one could doubt the commitment of Lund University to the project. Interest in the MAX project at the Department of Physics was mixed, which had the effect of creating greater scope for national responsibility.



MAX-lab was formally opened in January 1987.

A national facility

The decision was made early on that MAX-lab would be an independent entity, providing a resource for the whole University, but mainly the faculties of Science, Engineering and Medicine. This facilitated its financing, both locally and by government authorities and foundations. MAX-lab soon became a national resource.



The radiation provided by MAX-lab has higher brilliance than the sun.

The MAX IV Project

After 25 years of experience of synchrotron radiation, a new synchrotron radiation source is being built in Lund: MAX IV. The site is located three kilometers north-east of the original MAX-lab.

According to the University Board, the reasons for the later successes of MAX-lab are the scientific competence at Lund University and the tradition of spectroscopy at the Department of Physics. The University is also proud of being host to a national facility with a good international reputation.