

# LINXS

LUND INSTITUTE OF ADVANCED NEUTRON  
AND X-RAY SCIENCE

An advanced study institute to be located in  
Science Village Scandinavia



Image and design by Basics ([www.basics.land](http://www.basics.land))



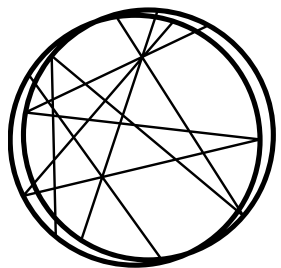
An aerial photograph of a modern university campus. The campus features numerous light-colored, rectangular buildings arranged in a grid-like pattern, interspersed with green lawns and trees. In the background, a city skyline is visible under a hazy, golden sky, suggesting a sunset or sunrise. A large bridge spans a body of water in the distance. Three white circular callouts with thin lines pointing to specific buildings are labeled 'LINXS', 'MAX IV', and 'ESS'.

# ATTRACTING THE BEST IN THE WORLD TO BOOST SWEDISH RESEARCH AT LARGE SCALE FACILITIES

LINXS

MAX IV

ESS



# LUND INSTITUTE OF ADVANCED NEUTRON AND X-RAY SCIENCE

## VISION

### SETTING THE STAGE FOR OPTIMAL USE OF MAX IV AND ESS

We are dedicated to becoming the nucleus for national and international scientific activities in Science Village Scandinavia situated between MAX IV and ESS.

LINXS will develop a national competence centre, research networking hub and think tank for the education of future generations of neutron source and synchrotron users.

The institute will be based around a stream of highly motivated world-leading scientists who are invited for short-term focused topical research visits in the spirit of a Kavli institute.

# LINXS

## MISSION:

### PROMOTE

science and education focusing on use of neutrons and x-rays in research and development

### EDUCATE

future users of ESS, MAX IV and other major research infrastructures

### BECOME

the nucleus for local, national and international activities in Science Village Scandinavia and a think tank which initiates new ideas and themes

## GOALS:

### ATTRACT

world leading scientists for short-term focused research visits in a lean Kavli institute model

### INVIGORATE

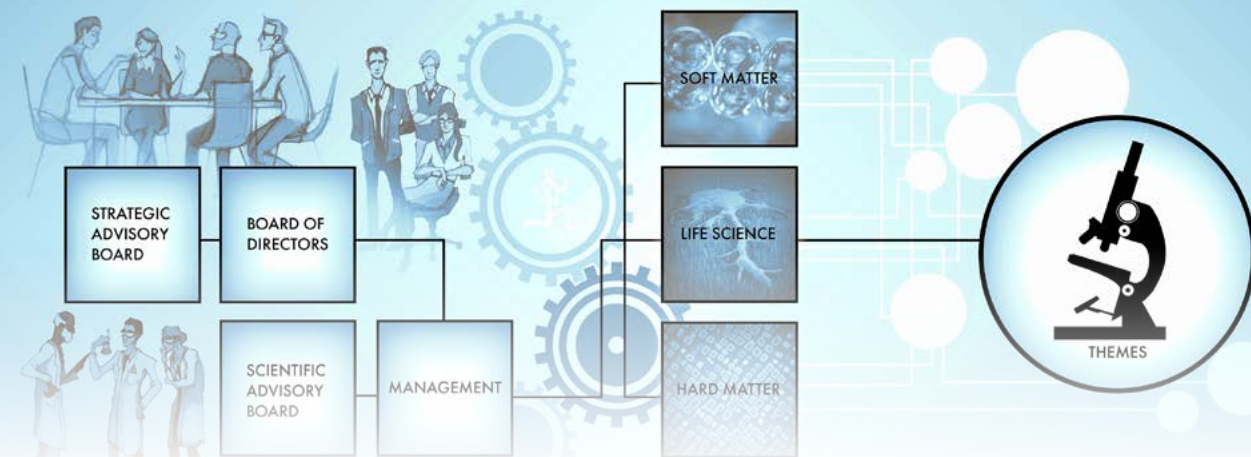
the dialogue between academia and society in all aspects of neutron and x-ray large scale facilities

### CREATE

international networks and enhance the visibility of Sweden internationally in this area



# FOCUS



## Organisation

LINXS is currently a Lund University Centre with a Management Group and an associated Scientific Advisory Board. The Management Group answers to the Board of Directors, which can have a Strategic Advisory Board attached. The Board level makes strategic decisions, while the Management Group makes scientific decisions. The Scientific Advisory Board issues recommendations to the Management Group on Themes and the Management Group decides.

## Focus Areas

LINXS works under strategic focus areas reflecting broad research priorities. These are: Soft matter, Life Science and Hard Matter. These are the areas defined over the long term where it is felt that a lot of progress can be made in opening up specific fields either by enhancing existing methods using synchrotrons and neutron facilities, opening up for users in new fields or doing both simultaneously.

## Themes

Themes are defined under (one or more) of the focus areas. These are limited-term activities (running about 1-3 years) that will bring research communities together. A theme is usually connected to one or more of the focus areas. LINXS solicits input on the themes and their content from the community that contributes to its funding. Themes are suggested via online proposal submission.

## FOCUS AREA DESCRIPTIONS

### SOFT MATTER

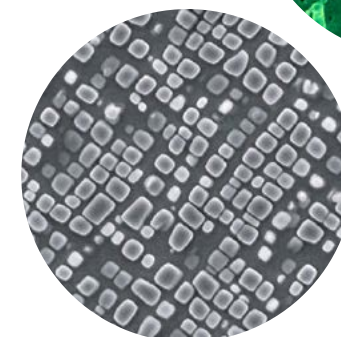
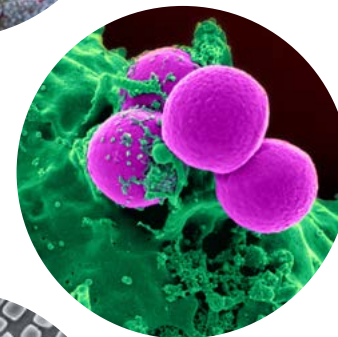
liquids, colloids, polymers, foams, gels, granular materials, liquid crystals, and a number of biological materials. These materials share an important common feature in that the predominant physical behaviors occur at an energy scale comparable with room temperature thermal energy.

### LIFE SCIENCES

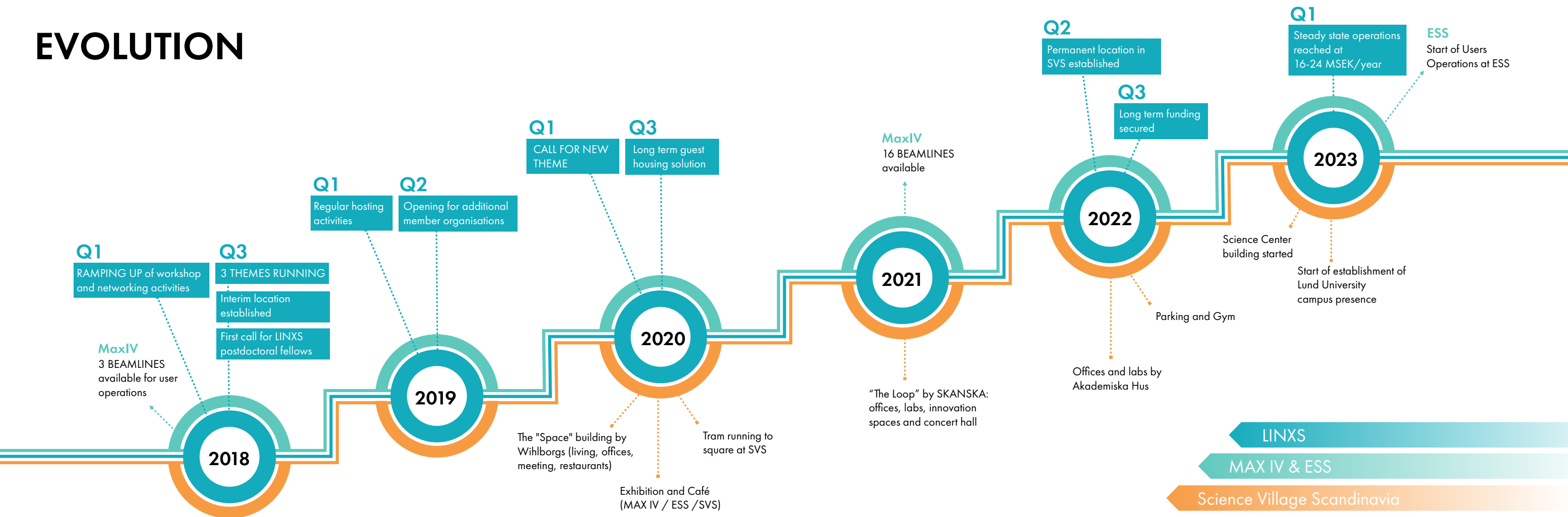
fields of science that involve the scientific study of living organisms – such as micro-organisms, plants, animals, and human beings – as well as related considerations. While biology and medicine remains the centerpiece of the life sciences, technological advances in molecular biology and biotechnology have led to a burgeoning of specializations and interdisciplinary fields.

### HARD MATTER

materials science and solid-state physics, the study of rigid matter, or solids, through methods such as quantum mechanics, spectroscopy, crystallography, electromagnetism, and metallurgy. It is the largest branch of condensed matter physics. Solid-state physics studies how the large-scale properties of solid materials result from their atomic-scale properties. Thus, solid-state physics forms a theoretical basis of materials science. It also has direct applications, for example in the technology of transistors and semiconductors and all solid-state nanoscience.



# EVOLUTION



# FAQ

## How can my organisation become a partner in LINXS?

During 2018 we are looking at a two-tier model for partnership. A junior partnership would give access to the premises and environment of LINXS on a regular basis during the year, while the full partnership would also include the member organisation in decision-making bodies and make the members of that organisation eligible for internal fellowships. Please contact the LINXS Management for more details.

## Does LINXS fund individual research projects?

Not in the traditional sense. LINXS supports collaborative activities that can increase the user base of major research infrastructures. The key is that the efforts should span several disciplines and be useful to a broad community. However, LINXS does reserve resources to fund targeted research efforts, including postdocs, where the work is deemed to have significant impact on bringing in new research communities and ideas.

## How can I join LINXS as a researcher?

Anyone with interest in the science of LINXS can participate in its activities. LINXS organises its work in Themes and Working Groups connected to these. If you wish to get involved in a current activity, you can contact the corresponding Core Group or Working Group members. As a member of a full partner organisation you can propose new Themes and Working Groups.

## Where is LINXS located?

LINXS is operational and located in Lund City during the ramp-up phase. From 2021 LINXS will be located in Science Village Scandinavia - the dynamic science hub right between MAX IV and ESS.

## How can I benefit from LINXS?

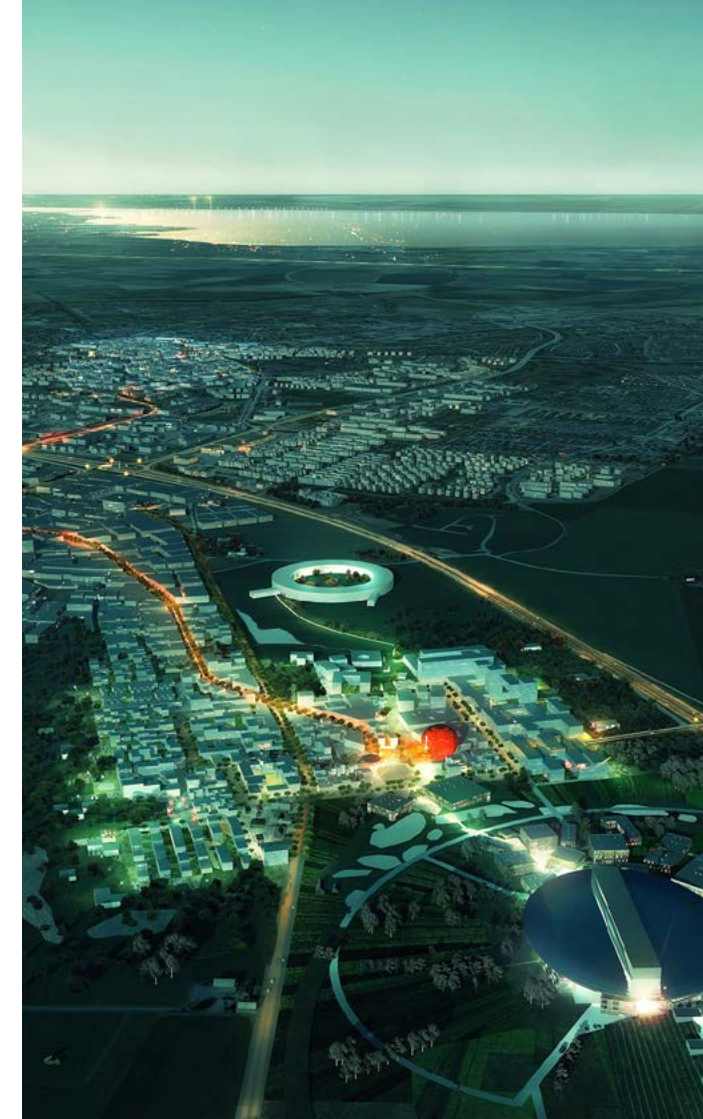
LINXS provides a community, and support for bringing together leading international expertise to advance the next generation of research that can be done with synchrotrons and neutron sources. If you think that such facilities can benefit your work - no matter if you are an existing or prospective user - LINXS is for you. LINXS can fund workshops, sabbaticals, hackathons and targeted research efforts.

## How is LINXS funded?

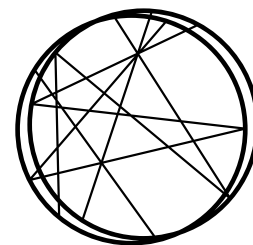
Right now it is funded by a grant from the Crafoord foundation and by Lund University including the Faculties of Science, Engineering and Medicine. LINXS currently has an annual budget of about 9 MSEK and has a target budget of 16-24 MSEK for steady-state operations.

## Is LINXS just for Lund University?

NO. LINXS will be an independent institute with national and international membership and funding. Lund University is incubating LINXS, but the organisation will ultimately be directed by the partner organisations and the agreed upon Charter. These will jointly determine the long-term organisational form.







# LINXS

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Visit us at  
[www.linxs.se](http://www.linxs.se)



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UNIVERSITY