

# How to benefit from MAX IV

So called mediator companies will be an important route into MAX IV helping other companies to get access.

**L**und-based CR Competence (CR) is a so called mediator company for MAX IV. Its purpose is to help other companies to get access to the advanced instruments and methods available at the facility. CR's CEO Anna Stenstam explains:

"We can be the entrance route into MAX IV for companies that do not have the right competence themselves. How do you design the experiments, and how do you interpret the data? Many are not aware of the opportunities on offer, or they do know, but do not dare to take the plunge. There are many potential obstacles."

"We are aware of the time lines and requirements of industry, and can work out what is needed in order to progress."

Actually, there are three routes into MAX IV available to businesses. Those who have the competence can simply book time for experiments and pay. Companies can also collaborate with academia, but that is time-consuming and the results have to be published.

"These options are not suitable for all, or in all situations. If the work involves a potential patent, a company might need data quickly - data which cannot be published, and is of no interest to academia."

"This is an example of when a mediator company can offer assistance."

**CR has been operating** as a mediator for over ten years, for Max-lab and many other advanced technologies available mainly at the neighbouring Centre for Chemistry and Chemical Engineering at Lund University, but in actual fact anywhere in the world.

"It can be just as hard for industry to get access to an electron microscope, or an advanced MR instrument, as it is to access a synchrotron."

"In contrast to academia, we are able to put the results from a good experiment into a context that is useful for the company."

"Naturally, the desire to understand is just as important. However, whereas academia should continue to ask questions, we have to stop and provide data for decision-making."



The view from the top floor of MAX IV is the building site of the European Spallation Source, ESS.

"We act as a sales partner for MAX IV, presenting the technology in a more comprehensible manner. For the lab, it is easier to keep us updated on the technology, rather than addressing the entire business community."

**Anna Stenstam** believes that advanced service companies that are able to assist other companies globally, are a future business area for Sweden.



**Anna Stenstam**

"There are already a number of such companies, and more will be developed because they are needed. I wish they were given more attention, and their circumstances taken into account."

One researcher who is looking forward to MAX IV is Martin Häggblad Sahlberg, associate professor at the Ångström Laboratory.

"We will be able to carry out new types of experiments where we can study syntheses and phase transitions in detail and in real-time, and gain a better understanding of the materials we are working with. Recently, I have studied primarily new magnetic materials at Max-lab (station I711)."

**At MAX IV**, he is expecting higher resolutions, an improved penetration depth (which is dependent on the radiation energy), more opportunity to add large sample environment equipment, and the ability to combine several types of measurements,

for instance diffraction and imaging.

"Currently, I am primarily interested in using DanMAX. It is essential for us to run powder diffraction experiments, and we wish more beamline stations were dedicated to these."

According to Martin Häggblad Sahlberg, MAX IV could definitely benefit companies, but these will require a lot of guidance.

"It is difficult to generate interest from companies because they would often be forced to work within longer time frames than they are used to. However, whenever I have collaborated with industry, they have always been very satisfied, and I think MAX IV will offer a great opportunity for increased industry involvement as long as there is an easily accessible 'entrance route'."

**The window in the office** section of MAX IV is overlooking the area where the European Spallation Source (ESS) is under construction, a project on an even greater scale.



**Martin Häggblad Sahlberg**

"The combination of photons (MAX IV) and neutrons (ESS) is incredibly powerful, and we often use it in our experiments. We are really excited about the co-location of MAX IV and ESS, where we will hopefully be able to carry out many advanced measurements in the future," says Martin Häggblad Sahlberg. 