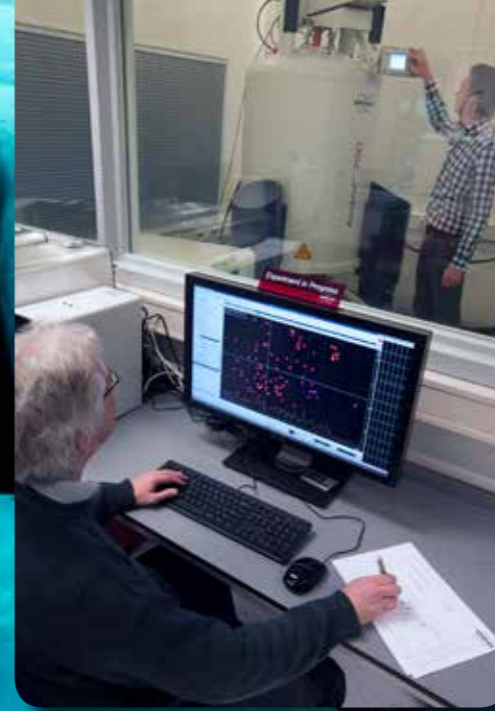


## CUSTOM-MADE SERVICES

Depending on your own wishes and expertise, Enabling Technologies can hire out an analytical tool to you or help you use it. We can advise you on developing an analytical protocol, preparing samples and interpreting your data. We can also work with you on co-creative and open innovative projects. Your intellectual property is safe with us: we will set up a non-disclosure agreement to protect your innovation.

The advantages of hiring equipment and/or expertise from Enabling Technologies are:

- visualization of nano- and microstructures in (biological) materials
- identification of complex chemical structures
- high-end analytical facilities for rent at cost-price
- connection of unique analytical competences in material and life sciences
- working in an open Joint Facility Centre
- SMEs can apply for discount vouchers (33% subsidized discount to a maximum of €15,000)



## CONTACT US

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# ENABLING TECHNOLOGIES

## High-end Analytical Facilities

Easy access to high-end analytical equipment and expertise around the corner

ENRICHING INSIGHTS



# THE AFFORDABLE WAY TO ENRICH YOUR INSIGHTS

As an innovator in materials and/or life sciences, having access to high-end analytical tools might secure your road to success. However, these tools are hard to come by. They are expensive and often beyond your financial scope. Enabling Technologies hires out these facilities in our open Joint Facility Centre. You can hire them for just for a few hours or also include our expertise and training on how to use the equipment and how to interpret the results. Above all, we do this in an affordable way.



## WHO IS ENABLING TECHNOLOGIES?

Enabling Technologies enables you to enrich your innovative process by hiring out the most advanced analysis tools available in material and life sciences. Enabling Technologies is a joint venture between DSM Resolve, the Maastricht University/Maastricht University Medical Centre+ and the Province of Limburg. We are located at the premises of the Chemelot Campus in Geleen and the Maastricht Health Campus in Maastricht, both in the very south of the province of Limburg in the Netherlands.

## INSIGHT INTO MATERIALS

Innovation requires a deeper understanding of material structures, the physical and chemical properties of materials and their morphological, magnetic, thermal and mechanical characteristics at the macro, micro and nano level. Enabling Technologies offers you these insights into your innovative materials. We offer you cutting-edge knowledge on the correlation of material properties and behaviour in response to light, heat, cold, pressure and other stimuli.

Enabling Technologies brings vast exploration and experimentation capabilities within your reach.

## INSIGHT INTO LIFE SCIENCES

Healthy living and aging are two of the many topics in life sciences that inspire innovators to try to enrich our lives. But even the tiniest of living things, a single cell inside a human body, animal or plant, belongs to the most complex structures that ever evolved in nature. Nevertheless, understanding these cells, their inner workings and their mutual interactions and interactions with non-living substrates is often essential to help new products evolve to the market.

Enabling Technologies has the experience and equipment to gain the necessary knowledge. We can study many processes in living cells and even visualize cell structures at the nano level using advance microscopy.

MESOSCOPIC IMAGING visualization of nano- and microstructures in materials and cell systems.

Sample preparation	<ul style="list-style-type: none"> <li>Ultra Cryo Microtome: Leica ULTRACUT EM UC7 Preparation of semithin and ultrathin sections sections and smooth surfaces of biological and industrial samples.</li> </ul>
(Fluorescence) light microscopy	<ul style="list-style-type: none"> <li>Super Resolution Microscope: LEICA STED</li> <li>Multispectral imaging system: Perkin Elmer Nuance FX Systeme For brightfield and fluorescence imaging, live cell imaging and colocalization studies e.g. dynamic vesicle movements, fluorescence images of sub-cellular structures, materials and catalysis interactions at surfaces.</li> </ul>
Electron Microscopy	<ul style="list-style-type: none"> <li>Cryo Transmission Electron Microscopy (TEM): FEI Tecnai G2 Spirit BioTWIN iCorr</li> <li>Environmental Scanning Electron Microscopy (SEM): FEI Versa 3D Dual Beam Integrated (fluorescence) light and TEM, including tomography on conventional and cryosections. Examine how materials are interconnected and which properties are important by imaging materials in their natural state and experimenting with additional stages for researching physical phenomena.</li> </ul>
X-Ray Scattering	<ul style="list-style-type: none"> <li>Wide-angle Desktop: Bruker D2 Phaser</li> <li>Small-angle X-Ray Scattering: SAXSLab Ganesha 300XL</li> <li>Wide-angle 2D: Bruker D8 Discover Fast crystalline phase analysis to analyse polycrystalline materials. Analysis of complex morphology elucidation. Also study of properties – such as overall morphology, crystallinity and crystal type, defects and phase composition – and thin film specimens in bulk and under environmental conditions.</li> </ul>

MOLECULAR IMAGING identification of complex chemical structures

Nuclear Magnetic Resonance Spectroscopy	<ul style="list-style-type: none"> <li>500 MHz AVANCE III HD NMR Spectrometer with a Bruker BBO H&amp;F CryoProbe</li> <li>Bruker Advance III 700 Mhz NMR For characterization of complex polymer samples and structure elucidation of small compounds and protein binding studies.</li> </ul>
Advanced Mass Spectrometry	<ul style="list-style-type: none"> <li>GC-QqQ-MS/MS: Agilent 7000 Quadrupole GC/MS/MS EI system</li> <li>TD-GC-MS: Interscience Trace1300 TD-GS platform</li> <li>TD GCxGC QTOF HRMS: Agilent 7200 Q-TOF GCxGC with Zoex, TD Gerstel and HRMS unit. For routine laboratories working on environmental, chemical and food safety applications, e.g. biological volatiles in breath. High resolution/accurate mass with 2D separation for identification, quantification and speciation in very complex samples.</li> <li>Nano Liquid Chromatography MSMS: Thermo Fisher Q Exactive Benchtop</li> <li>UHPLC with Ultra High Resolution Qq-TOF-MS: Ultimate 3000 Binary Rapid Separation LC with Bruker Maxis 4G ETD</li> <li>UHPLC with Ultra-High Resolution Qq-TOF-MS: Bruker Impact Broad screening capabilities for drug metabolism, proteomics, lipidomics, environmental analysis, food safety, toxicology and clinical research applications. Also high resolution for complex polymer analysis, identification, quantification, branching and isomeric separation even with a solid inlet probe.</li> <li>MALDI molecular MS imaging: Waters Synapt G2-S System</li> <li>MALDI TOF MS: Bruker UltrafleXtreme For identification of chemical composition (monomeric units and end-groups), branching and chemical topology in the field of polymer analysis. Also for determining the spatial molecular composition of tissue and studying molecular processes, such as ingrowth of a tumour in surrounding tissue, arterial plaque formation, bone fracture healing and regeneration of the liver after partial resection.</li> </ul>

## TOP IMAGING EQUIPMENT

Why buy it if you can hire it