accelerate your feasibility
The „Photochemical Competence Center“ is the only center in the world that specializes in feasibility tests with a variety of photoreactors in both continuous and batch processes. After a basic proof of concept (PoC), our investigations enable customers to move forward with further process development either independently or in collaboration with CROs and CDMOs. In the PCC we just offer a 2 week basic feasibility test. The subsequent process development is then carried out by the customers or their partners.

Each experiment is supervised by our scientific advisory board, which consists of internationally renowned experts in the field of photochemistry. The experiments are planned and carried out by experienced chemists who also have a PhD in the field of photochemical synthesis and are always in close contact with our customers. This enables us to guarantee the highest scientific standards and precision.

By working closely with our clients and involving our scientific advisory board, we are able to develop a customized Design of Experiments (DoE) tailored to the specific requirements and objectives of each project. The PCC combines in-depth technical knowledge with flexible reactor technologies and a customized approach to achieve the best possible results for each photochemical challenge.
The PCC supports the acceleration of breakthroughs in light-driven reactions for next-generation solutions worldwide.
services of the PCC

feasibility studies
We carry out tests with different photoreactor types to determine or prove their suitability for your specific photochemical reaction conditions. The experiments are carried out by experienced chemists and guarantee the highest scientific standards and precision supported by scientific procedures. The experiments are customized test series tailored to the specific needs of your photochemical process.

expert advice
Our team and our scientific advisory board, consisting of leading experts in the field of photochemical synthesis and photoreaction engineering support you in the planning and interpretation of the study results.

confidentiality and IP protection
All tests are carried out in strict compliance with absolute confidentiality. The intellectual property rights (IP rights) to the results remain entirely with the client. The PCC does not make any publications unless this is expressly requested by the client.

state-of-the-art infrastructure
The tests take place in Germany at the laboratories of Hahn-Schickard in Ulm in close collaboration. The laboratories are equipped with the latest photoreactor technology allowing complex photochemical tests, feasibility studies and pilot projects.

comprehensive analytics
Hahn-Schickard provides the necessary expertise and equipment facilitating in-depth analysis of reaction results along with the development of customer-adapted process analytical strategies.

continuous process control and batch chemistry
Equivalent expertise in flow chemistry and batch chemistry to meet the specific requirements of different photochemical reactions. We offer flexible customization of process control to achieve optimal results.
Benefit from a clear decision-making basis for selecting the best technology and minimize the risk of bad investments. Process development can be carried out internally or by external partners such as CROs and CDMOs, resulting in accelerated development and risk minimization. Shorten the time from idea to market with a fast and efficient feasibility check.
Parallel screening photoreactor PX9 for highly effective feasibility studies.

Get into the flow with the new HALEN oscillatory flow photoreactor.

Easy scalable photoreactors from laboratory to commercial size.
photochemical screening

UV/VIS spectra and identification of the ideal wavelength are essential. At the PCC it all starts with identifying the ideal wavelength for the photochemical process using the most advanced screening device on the market with precise temperature control and an equal photon flux operating mode for proper comparison, called „PX9“.

flow chemistry

Flow chemistry is ideal for processes that require a well-defined reaction conditions and show fast reaction kinetics, helping to increase efficiency and reduce risk when scaling up processes. In the area of flow chemistry, the PCC provides access to advanced plug-flow and oscillator flow photoreactors. This technology enables precise control of flow rate, reaction temperature and light intensity for optimal reaction control.

batch photochemistry

The PCC also masters the control of batch processes, including the use of stirred and gassed batch photoreactors and continuously stirred tank photoreactors (CSTPR). These are particularly advantageous for reactions that require intensive mixing, precise temperature control or specific reaction times. Batch reactors are often the preferred choice for complex syntheses where flexibility in reaction conditions and scaling is required.
who can use the PCC?

**chemical and pharmaceutical industry**

Use our feasibility studies to expand new and established reactions with photochemical process steps within the framework of enabling technologies.

**CROs and CDMOs**

Expand your service offerings by integrating our photochemical feasibility studies into your customer projects without investing in equipment in an early phase.

**technology start-ups**

Shorten development times by using tried and tested technologies.

Contact us for more details

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