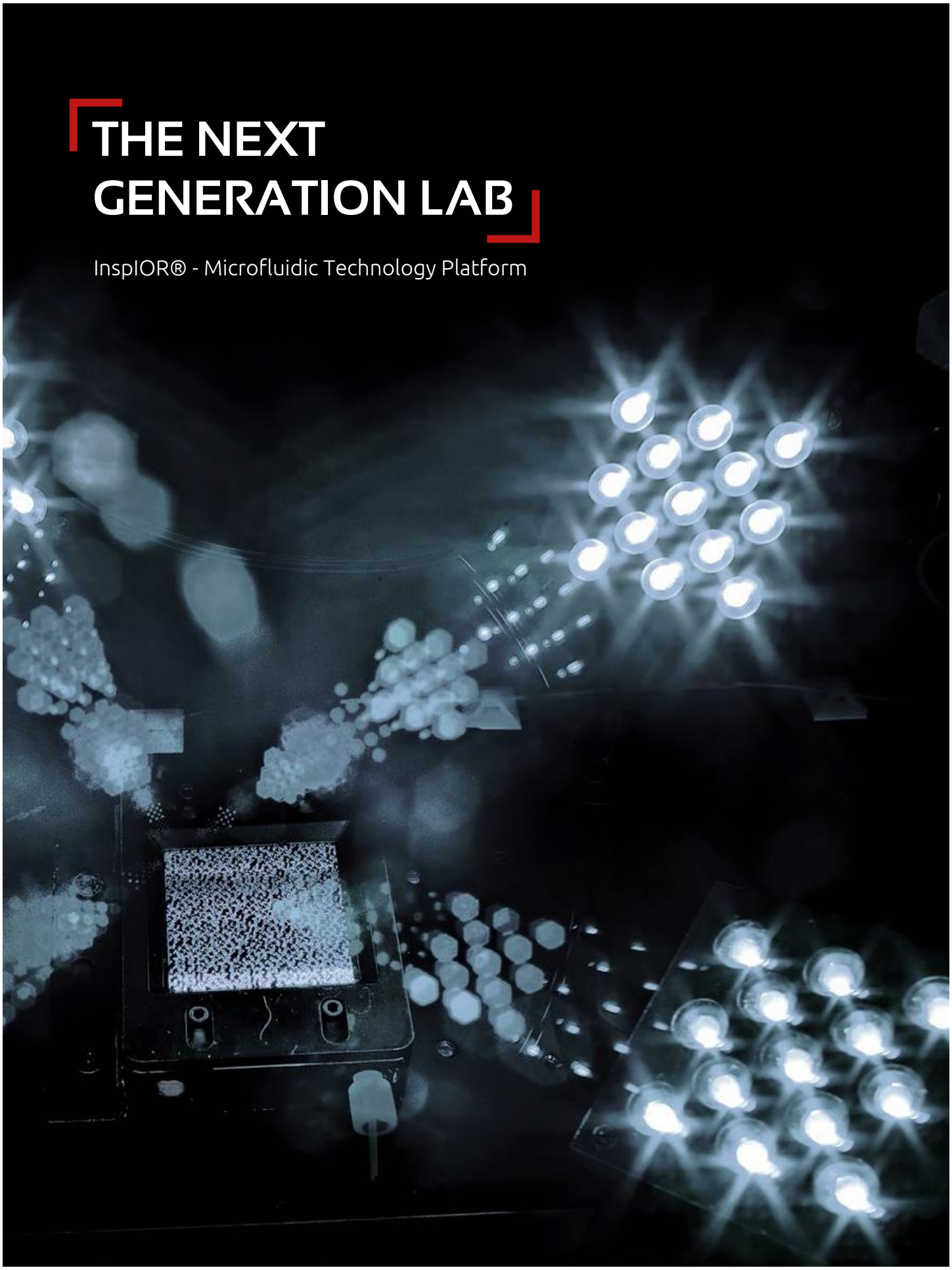
FluidicsLab

THE NEXT GENERATION LAB

InspIOR® - Microfluidic Technology Platform



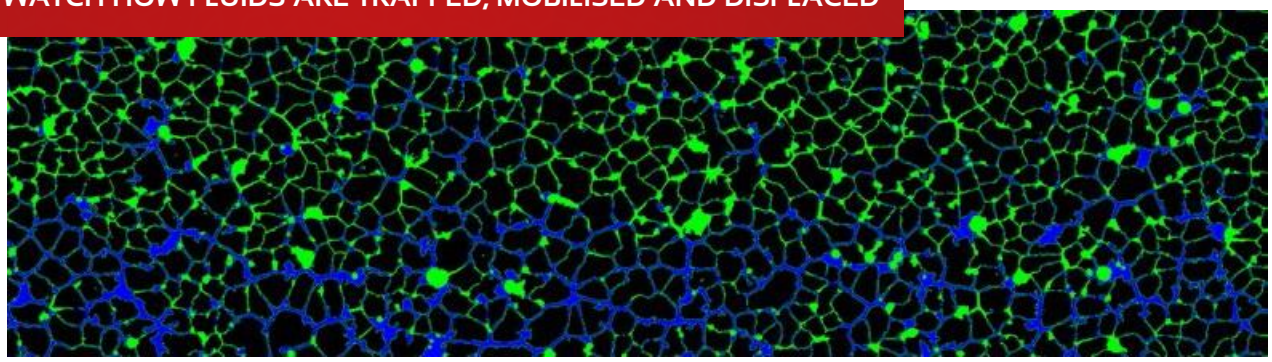
FLUID TESTING SERVICES
Fast, Accurate and Cost Efficient Results

Microfluidic fluid analysis technology is an integral part of our laboratory workflows. We integrate it to complement or replace conventional measurement methods for Improved and Enhanced Oil Recovery (IOR/EOR), Carbon Capture, Storage and Utilisation (CCS/CCU) and Hydrogen Storage applications.

This technology offers many advantages over traditional methods, including:

- Small fluid volume & cost efficiency (typically 1 - 3 ml / experiment)
- Fast results
- Precise visualisation of fluid behaviour at micro and nano scale

YOU WATCH HOW FLUIDS ARE TRAPPED, MOBILISED AND DISPLACED



Water flooding in sandstone analogue

WHY CHOOSE FLUIDICSLAB?

The fast and accurate visualisation of fluid flow helps reduce costs, accelerates and de-risks field implementation. This makes microfluidics an ideal solution for energy companies, IOR/EOR & PVT departments, people working in energy storage and fluid analytics (researchers, engineers), as well as researchers in the field of low carbon/environmental gases applications.

ACCELERATE YOUR NET-ZERO AND ENERGY STORAGE PROJECTS

Accurate and efficient fluid analysis performed at extreme conditions and under tight deadlines can also accelerate the implementation of net-zero projects. This ultimately results in faster decarbonisation. We offer leading microfluidics technology for hydrogen and carbon dioxide testing at high pressure and extreme temperature conditions, requiring only a few millilitres of sample.

Carbon capture and storage testing (CCS, CCU)

Hydrogen storage testing

- **Minimum miscibility pressure (MMP)**
  Oil volume required per experiment: 2 ml
  Experiment duration: 3 h
- **Asphaltene and wax precipitation**
  Oil volume required per experiment: 1.5 ml
  Experiment duration: 3–6 h
- **Drying of CO_2 wells and salt precipitation**
- **Oil Recovery factors and mechanisms**
  Oil volume required per experiment: 3 ml
  Experiment duration: 8 h
- **Methanation – bacteria visualisation and growth quantification**
  Fluid volume required per experiment: 2 ml
- **Solubility and flow assurance**
  Fluid volume required per experiment: 1.5 ml
  Experiment duration: 3–6 h
- **Fast phase envelopes**
  Fluid volume required per experiment: 2 ml
  Experiment duration: 2–6 h
- **Pore scale trapping mechanisms, residual/initial saturation distributions**
  Fluid volume required per experiment: 3 ml
  Experiment duration: 8 h

InspIOR – Turnkey Microfluidic Technology platform

InspIOR® - A FULL LAB IN ONE DEVICE

InspIOR, our microfluidic flooding platform, and our transparent micromodels are the basis for our turnkey microfluidic solutions that include hardware and software components as well as chip design, flooding experiments and interpretation services. Our InspIOR microfluidic systems are designed to enhance efficiency, reliability and convenience in your laboratory workflows.

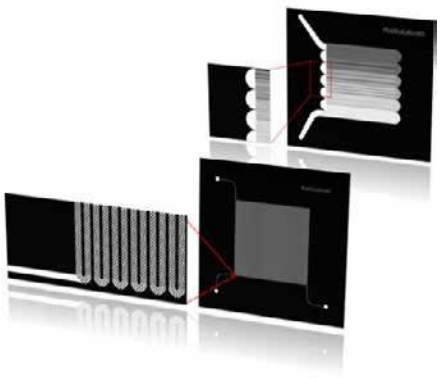
ALL-IN-ONE DEVICE

Our InspIOR turnkey microfluidic systems allow a comprehensive all-in-one fluid testing technology that brings the full laboratory experience right to your fingertips. It is operated via the InspIOR Vision software, enabling an efficient use with minimal human interaction.

ROCK-ON-A-CHIP & FLUID TESTING MICROMODELS

Together with InspIOR, we offer customised and off-the-shelf micromodels. Our transparent glass-silicon-glass (GSG) micromodels provide full visual access, enabling construction of small pore throats and complex flow geometries. Additionally, you benefit from precise wettability control.

With fewer chemicals and less time required compared to conventional methods, we not only provide an alternative solution but also ensure minimal environmental impact.



Bespoke chips for MMP, Flowback, Flow Assurance and more.

SOFTWARE

InspIOR Vision is our state-of-the-art software solution for process control, visualisation, and data management. Designed to streamline workflows and deliver precise results, it minimises the need for human interaction.

The machine learning extension module InspIOR Vision Pro for enhanced image processing capabilities and visualisation grants you access to additional powerful features for analysing displacement and flooding results.

OBSERVE YOUR CHEMICALS REACT AT PORE SCALE

BENEFIT FROM OUR MICROFLUIDIC SERVICES & PRODUCTS

Our transparent micromodels together with our InspIOR® microfluidic technology platform are at your service to significantly speed up your lab projects. They enable systematic testing, design, optimisation and de-risking of your challenging projects.

APPLICATIONS

- Phase Behaviour & PVT
- Flow Assurance & Conformance Control
- Improved Oil Recovery & Enhanced Oil Recovery
- Customised Lab-on-a-chip
- Underground Storage (CCS/CCU, Hydrogen)

LET´S STREAMLINE YOUR LAB!
Visit: fluidicslab.com
Contact us at fluidicslab@hoteng.com

About FluidicsLab

Based in Goslar at the Energy Research Centre of Lower Saxony (Germany), FluidicsLab's activities focus on experiments with hydrogen, carbon dioxide, and gas mixtures in compliance with the highest HSE standards. Being a leading high-pressure, high-temperature (HPHT) technology provider for PVT, IOR/EOR, and new energy applications, we help energy companies and research organisations globally speed up lab routines at a significantly reduced cost.

LOOKING FOR A PARTNER WHO'LL MAKE A DIFFERENCE?

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