Become an IKT Certified Sewer and Pipe Expert (CSPE)!

Certified Sewer and Pipe Expert (CSPE): Online course produced by Prof. Dr.-Ing. Bert Bosseler

Are you looking for professional success as a sewer infrastructure engineer? There is a new opportunity now: through the **Certified Sewer and Pipe Expert (CSPE)** course. This is an online course produced by Prof. Dr.-Ing. Bert Bosseler, one of Germany's leading wastewater infrastructure experts.

For more intensive training programme Certified Consultant "Construction and Rehabilitation of Sewer Systems".

For more than 20 years, he has been the Scientific Director of the internationally renowned and respected engineering research institute IKT – Institute for Underground Infrastructure.

IKT's Scientific Director Prof. Bert Bosseler shares the **current state of science and technology** on the topic of sewer and pipeline construction in this certificate course, providing comprehensive training at university level.

Ideal for Newcomers
This innovative course is designed for both newcomers to the industry and seasoned professionals looking to make a strategic career shift.

Prof. Bert Bosseler is IKT's Scientific Director

60 hours of self-study
The course comprises online lectures, plus study materials, resulting in a total study effort of about 60 hours. It is divided into 18 modules comprising textbook learning supported by recorded online lectures. Throughout the course, you can schedule individual online meetings with Prof. Bosseler to discuss your questions with him and receive **support, and reassurance**.

Certificate from IKT
At the end of the course, Prof. Bosseler will personally conduct an oral exam online with you. If successful, you will receive the course Certificate from IKT documenting what you have accomplished and the knowledge you now have. Then you can use it to support your next career step!

Boost your career – Start the course now!
Book this course today – it is a key decision for your career and for your professional future! You can start the course whenever you are ready – arrange your own personal start date!
more information

Prof. Bert Bosseler is IKT’s Scientific Director

What to expect

The **course content** includes the following modules:

- Introduction
- Open Cut – Construction Practice
- Open Cut – Structural Safety
- Open Cut Method Soil and Components – Flowable Backfill
- Open Cut Method Soil and Components -Reinforced Concrete Pipes
- Open Cut Method Soil and Components – Flexible Pipes
- New Construction Trenchless Overview
- New Construction Trenchless Pipe Jacking
- Rehabilitation – Objectives
- Rehabilitation – Replacements
- Rehabilitation – Repair
- Rehabilitation – Renovation
- Rehabilitation Liner – Statics
- Rehabilitation – Surface Preparation
- On the topic of the servicelife of the sewers and pipelines
- On the topic of tightness testing of sewers and pipelines
- On the topic of root resistance of sewers and pipelines

- On the topic of urban flooding and drainage

Course Director

Prof. Dr.-Ing. habil. Bert Bosseler has been Scientific Director of IKT – Institute for Underground Infrastructure for over 20 years. He is a visiting lecturer at Leibniz University, Hanover (on underground sewer and pipeline construction) and at the Ruhr University, Bochum (on pipeline maintenance and network management).

His National and international committee work covers:

- ISO TC 224 – Service activities relating to drinking water supply systems and wastewater systems
- ISO TC 224 /WG11 – Stormwater management
- ISO TC 224 /WG15 – Smart water
- ISO TC 224 /WG16 – Climate change
- ISO 268/SC1 – Smart community infrastructures
- ISO 268/SC1/WG6 – Disaster risk reduction
- CEN TC 165 – Wastewater engineering

Study materials

Professor Bosseler‘s **video lectures** for all modules are complemented by the following **downloadable documents**:

- The course textbook
- The slides of all video lectures
- A verbatim transcript of all video lectures

In addition, during all phases of the course you can contact Professor Bosseler directly and arrange **individual meetings** as a video conference to clarify open questions.

Certified Sewer and Pipeline Expert (CSPE)
Start date? Your choice!
download the flyer

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How testing CIPP liners helps sewer network owners protect their scarce money

IKT’s Test Lab: Three-point-bending test of CIPP sample

How can you as a sewer network operator be sure that your

newly installed CIPP liner is of good quality? How sure can you be that it will actually last the promised **50+ years**? How can you know whether you have received the promised quality for your good money? There is a reliable yet inexpensive way to find out.
CIPP liners are made on site under conditions that are **difficult to control**. Every job site is different and liner quality depends on many factors. For example, the human factor and the environmental conditions play a major role.

CIPP liners are always created in situ on the day of installation. The **risk is high** that work may be done too quickly and too carelessly on the job site. Therefore, you cannot always be sure you have really received a good quality CIPP installation.

Initial assessment of a CIPP sample: searching for weak spots

CIPP Quality Risks

You have to ask yourself: Were the curing **specifications** complied with? Is the wall thickness strong enough to withstand ground water pressure? Was a cheap or an expensive resin used? Is the liner really water tight?

Liners with poor material characteristics may not be stable and sufficiently **load-bearing**, and leak. Above all, they do

not achieve the promised service life. Then you might have spent a lot of money for nothing and have to replace the liner with a new one at an early stage.

In the worst case, the sewer pipe has to be completely replaced with a new one. A very **expensive affair**.

Water tightness test

Certainty through laboratory testing

You can avoid all this by having tested your CIPP by IKT’s lab directly **after installation**. For you, this is quite simple: You just have to extract a sample from the installed liner and send it to us.

We will determine the most important **material parameters** and compare them with the expected target specifications. We will also test your sample for water tightness.

Then you will receive an expert **test report** that can give you peace of mind.

Water tightness test with red dyed water

Neutral and independent testing

Our CIPP test center carries out **around 4,000** such quality tests every year. And we do so completely neutrally and independently, free from the economic interests of liner manufacturers and rehabilitation companies.

This is because we are a **neutral and non-profit** research and testing institute supported by more than 150 German municipalities, including Berlin, Munich and Hamburg.

We have been conducting quality tests on CIPP liners for **more than 25 years** and for which we have a strong reputation.

Rig for long-term tests

Contact us for testing

So if you also want to have certainty about the quality of the CIPP installed at your site, contact us and we will make you a quote **immediately**. We will explain to you how to take the samples and how to send them to us. It is much easier than you think!

Your contact person

Dieter Homann is the longstanding **director** of the IKT laboratory. He is a widely recognized expert who participates in numerous expert panels in Germany and abroad. He will help you understand the complexities of CIPP quality and interpret test results. Contact him, he will be happy to answer all your questions!

Dieter Homann, Director of IKT's Test Centre for CIPP liners

Simply address your questions to:
Dieter Homann
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More information on our CIPP testing procedures and how to send us your samples:
IKT Test Center for CIPP

See also an **overview** of our CIPP test results in our annual IKT LinerReport from 2003 until today:
IKT-LinerReport

Innovating Urban Drainage Systems together: Teaming up at Co-UDlabs Ideas Marketplace

Interested in finding, exchanging, and **improving ideas** on innovative methods and technologies for **sustainable urban drainage**? Seeking alliances, synergies, and new **partnerships**? Then visit the **Co-UDlabs Ideas Marketplace** online and participate in Co-UDlabs' Transnational Access call!

Co-UDlabs (Collaborative Urban Drainage Research Labs – one of which is IKT) offers free-of-charge **Transnational Access** (TA) to its 17-facility research infrastructure. A global call for TA is now open until January 31, 2022. All information about

the TA call, including all documentation required to submit a proposal, can be found in the TA call hub.

What is the Marketplace?

The **Marketplace webpage** is set out to work as a living, changing 'message board' in which the people of the community can **exchange propositions, ideas, contacts, methods, and plans**. Following a recent Hackathon, Co-UDlabs has already collected some early conversations and presentations in the Co-UDlabs Ideas Marketplace. You are free to share your idea and team up with other users!

You can **browse the ideas** that are currently available on the Marketplace and the information about their authors and their affiliation. Interested users can also submit their pitch and a few details. This way Co-UDlabs can update the 'board' and facilitate some **match-making**. You can also share any idea or proposal which you would like to show on the Marketplace. If you want you can **discuss your idea with the Research Facilities providers** and look for support to improve a TA proposal.

What does Co-UDlabs do?

Across borders: research institutions from Europe

network their laboratories.

The overall aim of Co-UDlabs project is integrate research and innovation activities in the field of Urban Drainage Systems (UDS) to address pressing public health, flood risks and environmental **challenges**. Co-UDlabs aims to integrate 17 key **large scale research facilities** at a European scale into an ambitious project aiming to offer the R&D community, water infrastructure operators and their supply chain high quality **laboratory and field facilities**, human resources, high level training opportunities and improved data sharing platforms in order to meet major UDS related societal, environmental, and economic sustainability challenges of the 21st Century. The main objective of Co-UDlabs is to provide a **transnational multidisciplinary collaborative research infrastructure** that will allow stakeholders, academic researchers and innovators in the urban drainage water sector to come together, share ideas, co-produce project concepts and then benefit from access to top-class research infrastructures to develop, improve and demonstrate those concepts.

Building a collaborative European Urban Drainage innovation community!

The Co-Udlabs project has received funding from the European Union’s Horizon 2020 research and innovation programme.

about Co-UDlabs

visit Co-UDlabs Ideas Marketplace

about the TA call

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Co-UDlabs Hackathon: Developing and exploring ideas for the urban drainage of tomorrow

After Co-UDlabs formed in the first half of the year and sorted itself out in the past months, things are now getting concrete: in a **two-day hackathon**, valuable project ideas relating to **urban drainage** will be collected, shared and thought through together with interested institutions. And perhaps even get one or two things off the ground.

Co-UDlabs Hackathon: Transnational Access to Research Infrastructures

Online workshop of the new European network of urban drainage labs.
23-25 November 2021
– Participation free of charge –
more on the website of the Co-UDlabs project

If you just want to find out more about Co-UDlabs just join the event for the first hour on Tuesday 23rd.
Please note if joining from the UK, Ireland or Portugal – the time difference is 1 hour so 09.00 in the programme is 08.00 at your place!
Operators of public wastewater facilities worldwide are facing

major challenges: Extreme weather events are statistically occurring more frequently. Infrastructure is ageing. Urbanisation is advancing. And we are working to decarbonise our lifestyles. **Innovation and research** in urban drainage are in demand.

17 pilot plants in Europe

Across borders: research institutions from Europe network their laboratories.

This is where the laboratory network project Co-UDlabs (Collaborative Urban Drainage research labs communities), funded by the European Union, comes in. At the European level, research institutes and universities from seven countries – including IKT – are networking and making their total of 17 unique **test facilities** available to each other as well as to external organisations and companies (e.g. industrial companies, universities, urban drainage companies, water and industry associations and consortia).
Transnational access to Co-UDlabs research infrastructures is **free of charge** and includes logistical, technological and scientific support, including a briefing. Travel expenses are reimbursed.

Have we piqued your **interest**? Then join us at the Hackathon on 23-25 November and contribute your ideas!

learn more about the Hackathon
register online for the Hackathon
view the full agenda of the event (PDF)
learn more about Co-UDlabs

Co-UDlabs is funded by the Horizon 2020 programme of the European Union.

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Heavy Rain Check research and consequences of July's Storm Bernd published in Water journal

Free paper: Lessons learnt from Storm Bernd

The Water journal has published the free access paper *"**Living with Urban Flooding:** A Continuous Learning Process for Local Municipalities and Lessons Learnt from the 2021 Events in Germany"* by Prof Bert Bosseler, Mirko Salomon and Marco Schlüter of IKT and Matteo Rubinato of Coventry University. It describes the findings of our Heavy Rain Check project and lessons learnt from the aftermath of the catastrophic **Storm Bernd flooding** in July 2021.
The paper can be accessed here

Heavy Rain Check

In 2021, heavy precipitation events in Germany have confirmed once again that **pluvial flooding** can cause catastrophic damage in large, medium, and small cities. However, despite several hazard-oriented strategies already in place, to date there is still a **lack of integrated approaches** to actually preventing negative consequences induced by **heavy rainfall events**. To address this gap, this paper presents the outcomes of the research project "Heavy Rainfall Checklist for Sewer Operation" which we conducted with sewer network operator members of KomNetAbwasser (ComNetWasteWater), to involve all the stakeholders affected by pluvial flooding within cities, and implement **a series of documents** that can be adopted by network owners across the world to support organizations and their operational staff in **preventing problems** caused by heavy rainfall incidents.

Outline of the Heavy Rain Check continuous process for developing responses to heavy

rain (click on picture to enlarge)

It analyses three different **rainfall scenarios** providing for each a list of specific **tasks and suggestions** for aiding decision-making:

- Stormwater drainage – for performance of networks for “as designed” levels of rainfall
- Heavy rain – events exceeding the “as designed” capacity of a network leading to localised flooding
- Catastrophic rain – leading to overwhelming flooding

To develop the Heavy Rain Check three levels of steering group (panels) were used to discuss the results and to check their significance and quality:

Members of KomNetAbwasser participating in the Heavy Rain Check project (click on picture to enlarge)

- User panel: This group consists of all approximately 70 members of the KomNetAbwassser group of network owners that meets weekly online to continuously exchange information, evaluate new issues and review recent flooding episodes.
- Expert panel: This group partly consists of 13 members of the KomNetAbwasser, who supported the research project

in an independent project funding. The group is supplemented by representatives of the Detmold district government and the North Rhine-Westphalian Environmental Agency, which funded the research project.

- Pioneer Panel: This group includes 5 members of the expert panel who, as pioneers,
  have already helped to develop and implement essential measures on site independently.

Storm BERND

Emergency operations/deployments in first week after storm Bernd (click on picture to enlarge)

In July 2021 a **catastrophic rainfall event** affected parts of Germany, the Netherlands and Belgium and its effects were also felt in the UK and around other European countries. Between the 19th and 26th July, IKT co-ordinated **assistance interventions** by unaffected municipalities in support of those badly affected (see figure).
The **lessons are still being learned** and initial observations on the consequences for the affected network owners are presented in the paper.
For **more information** about the consequences of Storm Bernd and the response by KomNetAbwasser members see this post on our

German website.

Visit the Water journal to read the paper on urban flooding!

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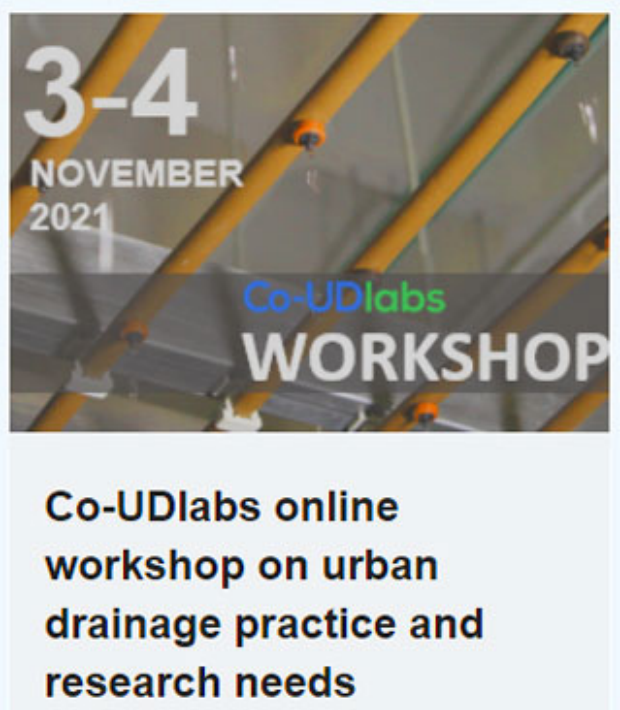
Innovating the Urban Drainage System: a new collaborative approach



IKT is hosting a workshop on identifying good practice and research for optimising the performance of urban drainage assets.

IKT has joined with six other urban drainage labs to form **Co-UDlabs**, a new international "Consortium of Urban Drainage laboratories". Together we are enabling access to our **research facilities**, providing **training** and undertaking **common research activities** with funding by the EU, and will build long term collaboration in urban drainage research. IKT will host a **free workshop** on optimising urban drainage assets.

Background to Co-UDlabs

Existing Urban Drainage Systems are ageing, but they are critical for protecting public health, reducing pollution impacts and urban flooding risks. The overall aim of Co-UDlabs project is **integrate research and innovation activities** in the field of Urban Drainage Systems (UDS) to address pressing public health, flood risks and environmental challenges.

Blog post: IKT joined EU's Co-UDlabs project

Join our workshop to find out more

IKT is hosting one of Co-UDlabs first activities, a **workshop** over the mornings of 3rd and 4th November 2021 on identifying good practice and research for **optimising the performance of urban drainage assets** and improving their resilience to climate change and **sustainability**. Attendance is free, the agenda is available online and there is a simple registration.

About Co-UDlabs

Nine partners from seven European countries engage in Co-UDlabs.

The consortium is coordinated by Universidade da Coruña (Spain) and comprises 9 partners from 7 European countries. Between us we are making available 17 unique “field scale” urban drainage experimental facilities, providing innovation, collaboration and high-level training opportunities.

How to engage with Co-UDlabs

1. Take advantage of the “Transnational Access” to conduct your research in the facilities

   The project will be enhancing scientific and technical progress in the urban water sector through experiments carried out in 17 unique “field scale” urban drainage

experimental facilities of seven research infrastructures: we aim to provide a total number of 29 accesses, with around 1080 days of granted access to the facilities, involving 141 different research users. Click here for more information

2. Join our network and networking activities
   To receive regular information you can complete our contact form. Activities are planned to consolidate the European community of urban drainage researchers, innovators and utilities and to contribute to create a culture of cooperation with the main actors working in UD field. Find out more about our networking activities
3. Engage with the training available
   Co-UDlabs supports education and training in UDS through seminars, advanced workshops, PhD courses, webinars and online videos.
4. Learn from the Joint Research Activities being undertaken by Co-UDlabs
   A set of three Joint Research Activities will support services provided by the different facilities through the transnational access and also to facilitate progress in the urban drainage discipline by the transfer of new technologies, procedures and best practices:
   • JRA1 Smart sensing and monitoring in urban drainage
   • JRA2 Evaluation of assets deterioration in urban drainage systems
   • JRA3 Improving resilience and sustainability in urban drainage solutions

For more information visit the Co-UDlabs website

Co-UDlabs is a Horizon 2020 project funded under the Research Infrastructures programme (INFRAIA-02-2020 – Integrating Activities for Starting Communities).

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