



Cooperation Agreement

Preamble:

Both the institutions **SCMS group** and **SEWERIN** have interests on special fields of water and wastewater technology and it was found out that there could be synergies in working together. The goal of this cooperation between the both parties is to support the training and joint handling of projects in the field of leak detection technologies.

1. This cooperation agreement is established between the following two institutions:

- **SCMS Group of Educational Institutions**

SCMS Campus

Prathap Nagar, Muttom

Cochin - 683 106, Kerala, India

Represented by Prof. Pramod P. Thevannoor

Vice Chairman

and

HERMANN SEWERIN GMBH

Robert-Bosch-Straße 3

33334 Gütersloh

Represented by Dr. Swen Sewerin

CEO

2. **SCMS Group** as a private educational institution offers undergraduate and graduate programs in management, business and technology and has R&D activities on various fields. The **SCMS Water Institute (SWI)** is a division of **SCMS Group of Educational Institutions** with the following objectives:

- Developing water and wastewater technologies including reuse of water and recycling of valuable components
- Fine-tuning of given technologies for local conditions
- Framing water policies
- Performing environmental impact assessments and water audits
- Offering water related capacity building on all levels



SEWERIN
Hermann Sewerin GmbH
Robert-Bosch-Str. 3 - 33334 Gütersloh
Tel.: 0 52 41 / 9 34 - 0
Fax: 0 52 41 / 93 44 44

SEWERIN

SEWERIN is a private, independent and owner-operated company. Our focus lies on developing, producing and distributing worldwide water and gas leak detection instruments.

Our own research, development and production department secures our independence and international pole-position in the field of leak detection technology.

These both institutions are interested in a close cooperation to develop and to adapt approved technologies to the specific tropical conditions. The focus lies on water and pipe location equipment, leak detection in particular.

For the specific project applications separate *Letters of Intend* will be agreed on.

3. The role of the two partners is as follows:

SCMS:

- identification of fields for research and application
- basic investigation for the preparation of research and application projects
- providing of qualified project support by staff or students of SCMS Group

SEWERIN:

- supply of the necessary technical equipment
- providing of qualified project support
- support and training of staff or students

4. Results, which are worked out in common projects will be published or used together, but only upon mutual agreement.
5. All technical information as well as information about projects, which are exchanged in the frame of this cooperation, will be handled confidentially. All rights will stay with the institution which has delivered this information.
6. The cooperation can be terminated from each side to the end of a year by written notice three months in advance.

Cochin, 4.09.2015

(signature/ stamp)



Gütersloh, 10.09.2015

(signature/ stamp)

SEWERIN

Hermann Sewerin GmbH
Robert-Bosch-Str. 3 - 33334 Gütersloh
Tel.: 0 52 41 / 9 34 - 0
Fax: 0 52 41 / 93 44 44

MoU Signing Ceremony - SEWERIN GmbH

An internationally successful and technologically innovative German company which is a world leader in pipe location and water leak detection has MoU with SCMS Group for academic and technological collaboration. Sewerin has donated both leak detection and pipe locating instruments worth several lakhs for SCMS Water Institute. Students and in- service engineers from government are being trained by SCMS Water Institute using these equipment's from SEWERIN GmbH.

- **“Water Pipe Leak Detection and Pipe Tracing”**; by Sewerin GmbH, Germany, September 26, 2016

On September 26, 2016 a workshop on leak detection and pipe locating were conducted at SSET. Dr. Syed Ibrahim, Honorary Consul of Germany in Kerala & Director, Goethe-Zentrum, Trivandrum inaugurated the workshop conducted at SCMS School of Engineering and Technology, Karukutty, Ernakulam and experts from Sewerin were resource persons. These workshops were an example of an academia-industry joint research initiative, where the participants from various sections of the society like water authority, irrigation department, consultants, technicians, NGOs and students got hands on training in the usage and application of leak detection and pipe locating technologies.



Mr. Lutz Höernschemeyer, Manager, Sewerin from Germany conducting training program on leak detection & pipe locating in association with SWI at the ‘Joint leak detection training facility’ at SSET campus on September 26, 2016

- **“Water pipe leak detection & tracing training”, October 18, 2015**

SCMS Water Institute at SCMS School of Engineering & Technology, Karukutty, Ernakulam enjoys a MoU with SEWERIN GmbH for the training and skill development in the usage of leak detection sensors for monitoring water distribution networks. SCMS School of Engineering and Technology, Karukutty, Ernakulam in collaboration with SEWERIN, GmbH, Germany, a pioneer in leak detection has conducted a training workshop on October 18, 2015 at our main campus to train M.Tech Environmental Engineering students of SSET and donated the state of the art technology sensors to SCMS Water Institute for the mentioned purpose. Hon: Vice Chancellor of KTU was kind enough to accept these equipments from SEWERIN GmbH on behalf of SCMS Water Institute.



Mr. Lutz Höernschemeyer, Manager, Sewerin from Germany giving a demonstration for students of SSET to locate water pipe on October 18, 2015

Approved by

Handwritten signature of the HOD.

HOD

Cooperation Agreement

Präambel:

The Institutions **SCMS Group** and **LimCo International GmbH (Limco)** had several meetings in the frame of Indian-German cooperation activities. During the discussions about various technological aspects of water and wastewater it was found out that there could be best synergies in working together. The goal of this cooperation between the both parties is to develop and to apply together best economic and effective solutions in the named fields in research and practical applications, under involvement of staff and students from both sides and from further partners.

- This cooperation agreement is established between the following two institutions:
- **SCMS – School of Engineering and Technology SSET**
SCMS Campus
Prathap Nagar, Muttom
Cochin 683 106, Kerala, India
represented by Prof. Pramod P. Thevanoor
Vice Chairman.
- **LimCo International GmbH**
Blarerstr. 56, 78462 Konstanz, Germany
represented by the Managing Director Dr. Almut Gerhardt
- **SCMS** group as a private educational institution offers undergraduate and post graduate programs in management, business and technology and has R&D activities on various fields. SCMS Water Institute is an activity of SCMS Group of Educational Institutions at SSET with the following objectives:
 - developing water and wastewater technologies including reuse of water and recycling of valuable components
 - finetuning of given technologies for local conditions
 - framing water policies
 - performing environmental impact assessments and water audits
 - offering water related capacity building on all levels

LimCo International GmbH is specialized in the research, development, consulting, education and engineering in the water sector. We especially develop innovative technologies for continuous monitoring of water quality for drinking, surface, re-use and wastewater as well as



LimCo International GmbH
Technologiezentrum Konstanz
Blarerstr. 56
D-78462 Konstanz

seawater and aqua/maricultures, such as the Multispecies Freshwater Biomonitor, the LimCo Biosensor System and the new biofilm sensor. We are partner in several national and international applied research projects in aquatic and soil ecotoxicology, we have lecturing contracts with the HTWG Konstanz and we exchange and co-supervise students at different career levels. We also perform consultancies in stream and land fill assessments.

- These both institutions are interested in a close cooperation to develop and apply new technologies and to adapt approved technologies to the specific tropical conditions. The focus is water and wastewater treatment, re-use of water from rain water, aquacultures, etc.

For specific project applications separate Letters of Intend (LoI) will be agreed on.

Following projects could be of interest among others:

- Adapt the Multispecies Freshwater Biomonitor (MFB) to Indian conditions to monitor WWTP effluents, rivers, reservoirs for drinking water, etc.
- Adapt the biofilm sensor to monitor water quality in drinking water tanks and swimming pools
A goal of the cooperation is to apply the research results on a technical level in practical application in larger scale, e.g. in a pilot WWTP plant of SSET.
- The role of the two partners is as follows:

SCMS:

- identification of fields for research and application
- basic investigation for the preparation of research projects (elaborating of funding sources and proposal writing)
- providing of qualified project support by staff or students of SSET
- performing local research work by applying this technology in India.

LimCo:

- Technology transfer such as demonstration, workshops, lectures
- Technology loan for pilot plants and applications
- Co-supervision of research work and joint publications
- Student exchange and support (both ways)



LimCo International GmbH
Technologiezentrum Konstanz
Blarerstr. 56
D-78462 Konstanz

- Results, which are worked out in common research projects will be published or used together.
- All technical information resp. technology as well as information about projects, which are exchanged in the frame of this cooperation, will be handled confidentially. All rights will stay with the institution which has delivered this information resp. technology.
- The cooperation can be terminated from each side to the end of a year by written notice three months in advance.
- The following had been agreed by both partners based on the points mentioned above:

1. SCMS Group shall help LimCo as a Knowledge Partner.
2. Student to come in Spring for 1 month to learn the equipment (covered by project of Prof. Fritsch (BWS), Limco is looking for a room as soon as this is approved).
3. Student works in India on application of the biomonitor in India with a native species (3 months): financed by the locally by SSET.
4. Writing joint research papers for scientific journals.
5. Application for further funding for research in this field in Indian conditions.
6. Joint research, workshops and demonstration of equipment & technology in India.

Cochin,

27/01/2015



(signature/ stamp)

Konstanz,

13.01.2015



(signature/ stamp)



LimCo International GmbH
Technologiezentrum Konstanz
Blarerstr. 56
D-78462 Konstanz

LimCo International GmbH, Germany

LimCo GmbH, an expert in biomonitoring, has given their Automated Multi species Biomonitoring Device costing Rs 8 lakhs to SCMS Water Institute for optimizing and fine tuning the instrument to Indian conditions.



Merin Mathew (2013 admission) student from the first batch of M. tech Environmental Engineering) was selected to undergo advanced training at International GmbH, Konstanz, Germany for a period of five weeks in May 2015. Limco International GmbH is an internationally reputed German company, a consultant in Limcology (science of fresh water). Merin Mathew got training in their worldwide unique IP-protected LimCo BioSensor system (LBS) based on the established Multispecies Freshwater Biomonitor (MFB). After the training, the biosensing equipment was brought to SCMS Water Institute for conducting studies in India and Merin Methew is continuing the project at SCMS Water Institute.

