

## TIME FLIES!

2016 IS HALFWAY AND SODECON HAS ALREADY BEEN ACTIVE FOR 1,5 YEARS! WITH THIS NEWSLETTER, WE WOULD LIKE TO INFORM THOSE WHO DO NOT KNOW US YET OF OUR COMPANY VISION AND THE SERVICES WE OFFER. MOREOVER, WE WANT TO INFORM YOU FROM NOW ON ABOUT OUR MOST RECENT ACTIVITIES WITH A NEWS LETTER EVERY 3 MONTHS. SINCE THE START OF SODECON WE HAVE EXECUTED DIFFERENT IN SITU REMEDIATION PROJECTS, WE HAVE DEVELOPED A NEW INJECTION TECHNIQUE AND SODECON HAS BEEN ENFORCED WITH A NEW EMPLOYEE.

I HOPE YOU ENJOY READING THIS NEWSLETTER,

JEROEN



JEROEN VANDENBRUWANE

## SODECON

SODECON is an innovative, knowledge-based company specialised in soil remediation providing consultants, developers, industrialists, and private individuals with lasting, economic solutions to their soil issues. We try to accomplish this by our solid expertise, no-nonsense politics and a straightforward approach.

## INJECTION WITH SPIN INJECTION™

Sodecon has developed a new injection technique that has significant advantages in comparison with conventional injection techniques like direct push or in some cases even infiltration on injection wells. This innovative injection technology allows continuous injection over the entire depth profile that has to be treated. Thanks to the design of the injection system, the soil is not compacted at the location where the injection solution has to be injected into the subsurface. As a consequence it is possible to apply much lower injection pressures resulting in a significantly lower risk for the formation of undesired preferential flowpaths towards the surface or towards more permeable soil layers. With this new injection technique, it is possible to inject a solution very accurately at the desired depth.

After a year of intensive research and development of the injection system, a first full scale remediation project was performed in January 2016 in Harelbeke, Belgium. On

this site a groundwater contamination with chlorinated solvents is present. Stimulation of in situ anaerobic biodegradation was selected by the soil consultant as the remediation technology for the site. In the past 2 injection events with a carbon source were already performed with conventional the direct push technique. These previous injections have not lead to the desired TOC increases in the subsurface. Increased TOC concentrations were only measured in the former excavated area. As the filling material for the excavation pit is more permeable than the underlying soil, preferential flowpaths to the former excavation area have likely been formed and the injected fluid migrated upwards.

Contrary to previous injections, injections with Spin Injection™ have lead to the desired TOC increases in the subsurface. In the table below, TOC concentrations of the deeper monitoring wells between 5,8 and 6,8 m prior to and 2 months after the injections with Spin Injection™ are shown. A clear increase in TOC concentrations can be observed.

MONITORING WELL	TOC BEFORE (MG/L)	TOC AFTER (MG/L)
MP10.3	20	1.400
MP13.3	12	160

**CURRENTLY SPIN INJECTION™ HAS ALREADY BEEN TESTED AT 5 DIFFERENT SITES AND OTHER PROJECTS ARE IN THE PIPELINE.**

DO YOU WANT TO KNOW WHETHER A SITE IS SUITABLE FOR SPIN INJECTION™? SODECON CAN PERFORM AN IN DEPTH EVALUATION OF THE REMEDIATION STRATEGY AND THE POSSIBILITIES OF THE INNOVATIVE TECHNIQUE. FEEL FREE TO CONTACT US FOR A NON-BINDING ADVICE.

In the meanwhile, Sodecon has built a second smaller installation with this technique which can be used inside spaces with limited access: the equipment can enter a standard door opening with a width of 78 cm and a height of 200 cm. With this new installation a first remediation project has already been performed in april 2016 in an underground parking garage in the centre of Brussels, Belgium. 15 injections with a carbon source were executed in a chlorinated solvent source zone. Injections were performed between 1 and 7 m below the basement floor. The first results are already known: after 3 weeks an increased TOC concentration was measured in all 7 monitoring wells in the source zone and the first signs of increased biodegradation were already visible.



INJECTIONS IN UNDERGROUND PARKING GARAGE

## INJECTION ON INFILTRATION WELLS

Two remediation projects were performed in which a carbon solution was injected in fixed injection wells. At both sites a groundwater contamination with chlorinated solvents is present. For the remediation of these contaminations, stimulation of the anaerobic biodegradation by injection of a carbon source was selected as the remediation technology. Taking into account the site specific boundary conditions, injections at both sites were performed in a different way:

**BOTH INJECTION PROJECTS WERE PERFORMED WITHOUT ANY PROBLEM. MONITORING ON BOTH SITES IS ONGOING.**

In **LOVENDEGEM** (Belgium) an automated injection installation was selected allowing for continuous and fully automatic injections.



INJECTION DEERLIJK



INJECTION INSTALLATION LOVENDEGEM

In **DEERLIJK** (Belgium) it was not possible to install pipes due to activities on site. Injection containers were installed near every injection well and filled at set times. Installation of the wells and injection of the solution were executed during the weekend in order to minimize disturbance of site activities.

## NEW EXPERIENCED EMPLOYEE

Thanks to the growth since the beginning in January 2015, Sodecon has been able to hire a new and experienced employee: Hans Baillieul.

Hans Baillieul is an environmental engineer and has more than 10 years of experience in the area of world wide (in situ) remediations and with the development of innovative remediation techniques. As project engineer, Hans will take care of the design of remediation concepts and the practical aspect of remediation projects from beginning to end. With this new cooperation Sodecon can continue to answer the increasing demand in the area of complex remediation projects in a qualitative way and can increase its expertise.

Sodecon continues to develop as an innovative and knowledge driven remediation company.



## CONTACT

DO YOU WANT TO KNOW WHAT SODECON CAN DO FOR YOU IN THE FUTURE? OR DO YOU HAVE A QUESTION ON A SPECIFIC PROJECT IN WHICH WE CAN HELP YOU WITH OUR EXPERTISE? FEEL FREE TO CONTACT US.