# MAGAZINE

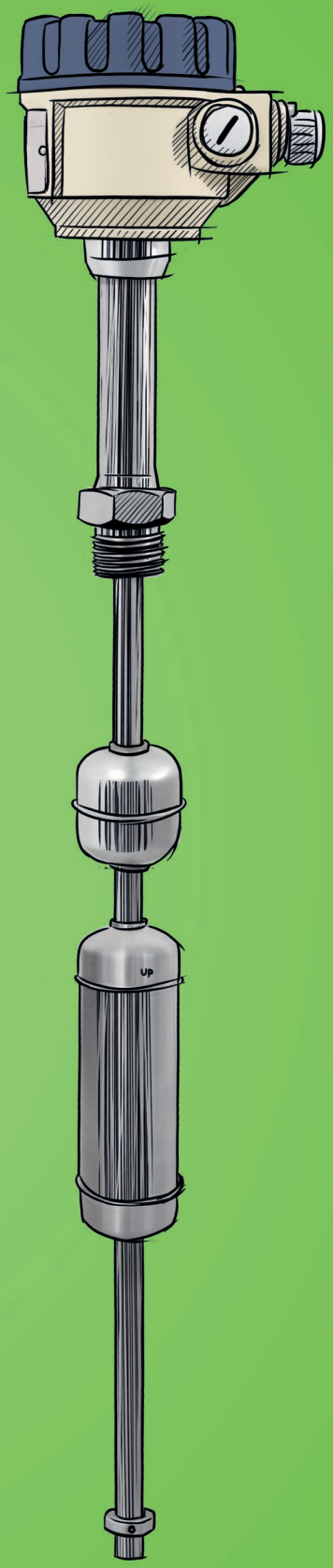
NIVELCO

SPRING–SUMMER // 2019/1

NIVELCO

# NIVOTRACK

Magnetostrictive level transmitters




Quality & innovation since 1939

WWW.NIVELCO.COM

# Contents

TAMÁS SZŐLLŐS
CEO

NIVELCO Co.



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## Introduction

*Our Esteemed Partners!*

I would like to welcome you on the occasion of the release of this year's first issue of the NIVELCO Magazine.

It has always been a key issue to NIVELCO that corporate social responsibility is not materialized in mottos but in projects which are truly effective and able to help the society and those in need. Our CSR activity has been recently recognized with a prize which inspired one of our articles.

In our Product News column, we highlight three technical news. They are written about the new Halar® coating option of NIVOSWITCH vibration forks, innovations of the NIVOFLIP product family which can now be used even under Siberian conditions and also about our SAT-504 HART®/USB modem, equipped with Bluetooth® wireless signal transmission and other useful features.

In the Distributor Introduction section, we can now get acquainted with two new partners who represent us in remote and exotic countries; one in Iran and one on the other side of the world, in a country located just over 12,000 kilometers away, in Argentina.

In the Applications column there are again topics picked from a broad palette which include: an application in the Czech beer industry which is very topical also because summer is approaching; an American car tire factory; Indian waterworks; environmental protection project of the Polish metal industry; a Hungarian sewage grinder equipped with a NIVELCO level transmitter; and finally a unique American application in which the level of a container filled with fish(!) to be processed is controlled by a vibrating rod level switch.

As a respected global player in industrial measurement technology, earlier this year we were asked by a major international journal, International Cement Review to write a professional article for them. You can find the full article on NIVELCO instruments in the construction industry under the Applications section.

Of course, you can read about the latest project of LevelBoy and about many more interesting topics in the magazine; enjoy reading!

# Pune Manufacturing Leadership Awards 2018

## The CEO of NIVELCO India was awarded

**SHRIKRISHNA DESHPANDE**
Director

**NIVELCO Instruments India Pvt. Ltd.**
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I am really proud to receive Pune Manufacturing Leadership Awards 2018 in the function held on 8th October 2018 in prime hotel in Pune.


The selection process for the Manufacturing Leadership Awards belonging to the Pune Leadership Awards series awarded annually is as follows:

### Process:

The Manufacturing Leadership Awards is intensely researched process undertaken by the research cell which consists of Post Graduates in History & Management with over 5 years research experience posts their studies. It is the iconic job of the research cell to produce a shortlist of Individuals who are doing extraordinary work in the area of their relevant specialty and track the record of their achievements.
At the end of the process the shortlist is reviewed by a Jury comprising of senior professionals from across the globe.

### Criteria:

The criteria adopted in this case for selecting the winners are:

- Strategic Perspective
- Process Management
- Future Orientation
- Track Record
- Integrity and Ethics
- Ability for Sustainable
- Time and cost of implementation.

### Jury:

An Independent Jury which consists of senior Leaders, Researchers and Academicians includes some prominent names as below:

- *Harish Mehta*, Chairman & MD – Onward Technologies Ltd.; Emeritus Chairman – World HRD Congress & Founder Member – NASSCOM
- *Professor Tom Hilton*, Global Chairman, Asia Pacific HRM Congress
- *Richard Ford*, Global Chairman, World Quality Congress
- *Jonathan Peters*, Global Chairman, Stars of the Industry Group
- *Dr. R. L. Bhatia*, Founder, World CSR Day and World Sustainability Congress.
- *Nina E. Woodard*, President & Chief "N" Sights Officer, Nina E. Woodard & Associates
- *Dr. Saugata Mitra*, Chief People Officer & Head – HR, Mother Dairy Fruit & Vegetable Pvt. Ltd.

I would thank you World CSR Day and all the Juries for the honor this award has given me as well as ABP News & Yes Bank for organizing the great event for Award Ceremony on 8th October 2018 in Pune.

# Paralympic Flame Award for a decade of support

## Corporate social responsibility at NIVELCO

**GÁBOR FABIÁNYI**
Head of Marketing

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Recently, CSR activity of **NIVELCO** Process Control Co. has received significant recognition. The Hungarian Paralympic Committee awarded Péter Szőllős, Vice President of **NIVELCO** with the Paralympic Flame Award for almost a decade of support.
Since 2011 **NIVELCO** has been sponsoring paralympic athletes every year with a significant amount of money. We are proud to support such a socially important cause and we will keep supporting the work of the Hungarian Paralympic Team in the future.

The contribution to the preparation of Paralympic athletes is, however, not the only area of social responsibility at **NIVELCO**.
We regularly donate measuring devices to the universities and colleges in the country thus improving their instrumentation and the level of Hungarian education.

For more than 10 years we have been a regular sponsor of the Lifebelt for Our Children 2002 Foundation (Mentőöv Gyermekeinkért 2002 Alapítvány) with whom we were primarily involved in financing various asset purchases and operating costs of the Batthyány László Primary School for the Blinds (Vakok Batthyány László Általános Iskolája) and the Primary School for the Visually Impaired (Gyengénlátók Általános Iskolája). We recently supported the purchase of tablets and other IT equipment to be used for educational purposes. In 2018 we cooperated with the Adra Vitium Foundation to help buy an essential apparatus for the Premature Baby Department of Péterfy Sándor Hospital. The machine (a bedside control monitor such as can be seen in the picture) will soon arrive at the hospital and with its installation, there will be another piece of modern equipment making medical care safer and more efficient for the little patients.
In recent years, we have also regularly supported the Giving Hope Foundation (Reménytadó Alapítvány) in cooperation with which we have mainly supported children's Oncology and Premature Baby Departments, with various medical care equipment.

Corporate tax system (TAO) plays an important role in sponsoring professional and amateur sports in Hungary. First in 2017 and then in 2018, we offered part of our corporate tax to support team sports. **NIVELCO** Process Control Co. is proud to have its main base in Újpest so we have also decided to give our TAO money to an association from Újpest. We have chosen a youth basketball team, the Kis Lenke Basketball School (KLKS Basketball Kft.), which wanted to use the money to build a basketball gym. In the two years period, we contributed to the new gym with almost 10 million forints. Construction works are still ongoing and are expected to be finished in August 2019.
It is a great pleasure for us that our professional success worldwide enables us also to implement such and similar social responsibility projects and actions.

# NIVELCO offers Halar® coating option

## NIVOSWITCH vibrating fork range has been further expanded

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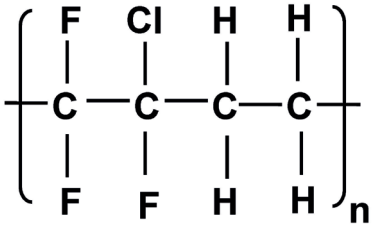
NIVELCO has always placed great emphasis on ensuring its product range to cover the widest range of user needs, and product variants within product lines to meet the requirements of different application and utilization conditions. As a result, NIVELCO today has one of the most comprehensive product ranges in the level measurement market.




Atomic formula of Halar

One of the latest developments in our product development is that, reflecting on different customers' needs and requirements of special application conditions, NIVELCO has supplemented its coating material selection with a new, optional Halar® (ECTFE) coating for the NIVOSWITCH vibrating fork family. The variant with the new coating did not replace the previously used PFA-coated version for similar purpose, but appeared as an additional option in the product range. Vibrating forks with PFA coating material can still be ordered.

An important technical detail is that the new Halar® coating is only used on the fork itself, the rest of the construction (extension rod, process connection, flanges) is made the same way and from the same materials as before (PFA, PVDF).

### Halar® and its strengths

Halar® is the brand name for a partially fluorinated semi-crystalline copolymer of ethylene and chlorotrifluoroethylene (ECTFE). This polymer has several key strengths and is also applied widely in highly demanding industries.

The most important features of Halar®, which also justify its use as a new optional coating material for NIVOSWITCH vibrating forks:

- Halar® possesses excellent chemical resistance, and it is hydrophobic, absorbing less than 0.1% of its weight in water when submerged (24h @ +23 °C (73.4 °F)).
- Due to its corrosion resistance, Halar® is widely used in anti-corrosion applications as a coating or lining or in self-supporting constructions (piping).
- Halar® can be applied in a much thicker coating than Teflon™, see the table below. Halar® coatings are often recommended for high-purity applications because static soak tests in both ultra-pure water and high purity chemicals have shown extremely low levels of metallic and organic extractables coming from Halar® coatings.
- Halar® has a low dielectric constant in a variety of temperature environments. This dielectric strength is about 80 kV/mm in 0.025 mm (0.001 inch) thick coatings.
- Halar® has excellent mechanical properties and pressure resistance at mild temperatures.

### Features of Halar® compared to PFA

Both Halar® and PFA are durable polymers used for a variety of applications. The following table compares some important parameters of Halar® and PFA.

| Finish | Max. temp. | Thickness range mm (inch) | Durability | Softness | Adhesion | Corrosion resistance | Chemical resistance | Resistance to flaking |
|---|---|---|---|---|---|---|---|---|
| Halar® (ECTFE) | 149 °C (300 °F) | 0.5 – 1.5 (0.02 – 0.06) | Very good | Very good | Good | Very good | Very good | Very good |
| Teflon™ (PFA) | 260 °C (500 °F) | 0.3 – 0.5 (0.012 – 0.02) | Good | Average | Good | Excellent | Excellent | Varies |

- Unlike PFA, Halar® has an exceptionally smooth, non-porous surface. This helps to reduce the proliferation of bacterial colonies on Halar® surfaces, making it ideal for the medical and food industries.

Halar® is resistant to most acids, bases, and organic solvents at moderate temperatures and at higher temperatures to some selected chemicals.

PFA is inert to most chemicals except molten alkali metals and fluorine and certain halogenated compounds at elevated temperatures.

In general, both Halar® and PFA coatings have high grade of chemical resistance and behave very similarly in case of acids, solvents, and hydrocarbons.
Halar® can be used in a thicker coating than PFA, its surface is smoother and less porous, and has better resistance to flaking.

The major limitation of Halar® compared to PFA polymers is the comparatively low temperature resistance. Halar® can, at most, withstand up to +149 °C (300 °F) of heat before failing. As such, it is not recommended for high-temperature processes. However, this is not an issue in our case, as the maximum allowable medium temperature for NIVOSWITCH is +130 °C (266 °F).

## Note

All application parameters affect the performance of a given plastic coating: temperature, pressure, exact chemical composition and concentration of all chemicals in the application in contact with the media, and the time period that the coating is exposed to all these chemicals, etc. The chemical resistance of each polymer is mainly determined by the chemical structure of the material and the strength of the weakest link in this specific structure.

It is always the user's responsibility to evaluate and check the suitability of the product for their specific application!

NIVOSWITCH

## How to order

Order codes of **NIVOSWITCH** vibrating forks with Halar® (ECTFE) coating are:

- Compact vibrating fork level switch for liquids **RV**□-□□□-□
- Mini compact vibrating fork level switch for liquids **RB**□-□□□-□

## Pricing

The prices of the new Halar® (ECTFE) coated versions are the same as of the PFA coated ones.

## Availability

This new model version is already available for ordering with about 4 weeks shipping time.

# Wireless HART® communication

## NIVELCO's Bluetooth® capable HART®-USB modem

**GÁBOR FABIÁNYI**
Head of Marketing

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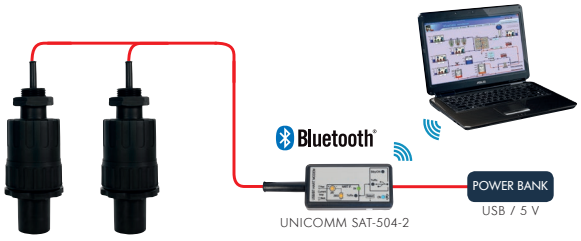
Today, in comparison to traditional wired solutions, wireless technology gains ground in nearly all technical areas. It is no surprise that this trend can also be observed in the field of industrial instrumentation and process control as this kind of technology provides greater flexibility, efficiency and, last but not least, comfort in the industrial data connection. Of course, NIVELCO's product range also offers a solution allowing the user to monitor and adjust measuring devices with wireless technology.

The latest member of NIVELCO's UNICOMM universal communication interface product family, SAT-504 USB / Bluetooth® modem offers, as its name suggests, a Bluetooth® data connection.




SAT-504 is the advanced version of the former SAT-304 HART®-USB communication modem. These devices are basically designed for communication between HART®-capable field devices and process controller computers or PLCs but SAT-504 has many other useful features, too.

SAT-504 can either communicate via USB port or via Bluetooth®. Like other UNICOMM HART® modems, these devices are not only applicable for NIVELCO transmitters but for all HART® capable transmitters that use standard HART® communication.

Thanks to the Bluetooth® connection, transmitters installed in hard-to-reach locations can also be conveniently operated even from a distance of 10 meters (33 ft) ensured by the technology.

The input of SAT-504 is galvanically isolated. If communication is done via USB port the modem does not require an external power supply as the USB port itself provides the power required for the operation. Under field conditions or when using Bluetooth®, SAT-504 can also be powered by today's popular and widespread USB power banks, which makes the way of usage even more flexible.

A very useful feature of SAT-504 is that it can supply power to the HART® loop so if necessary the transmitter connected to the loop will receive power supply from the modem. The 24 V DC transmitter supply option can be switched on / off on the device.

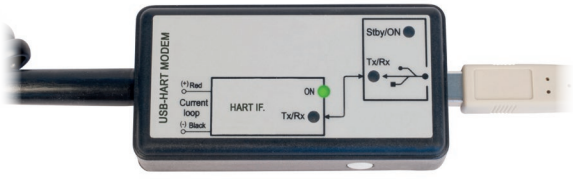
Another practical feature of the device is that it includes a switchable 250 Ω HART® resistance, which means that no special care is needed in that matter when using SAT-504.

### To sum up, the main features of SAT-504 are:

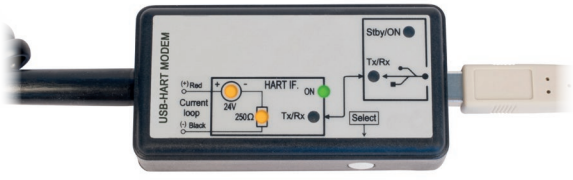
- Communication interface between HART® capable transmitters and PCs
- Connecting to the PC via USB or Bluetooth®
- Switchable 24 V DC current loop power supply
- Switchable HART® terminal resistor
- No external power supply needed
- It can also be powered from a USB power bank
- Galvanic isolation
- IP20 protection

## SAT-504 comes in three versions:

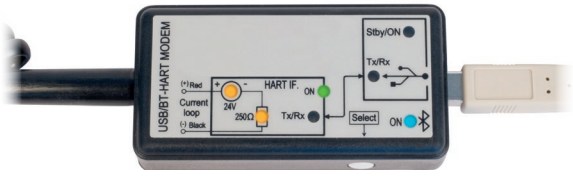
- Standard version of HART® / USB modem




- HART® / USB modem with power supply for transmitters and switchable HART® resistor




- HART® / USB modem with power supply for transmitters, switchable HART® resistor, and Bluetooth®.




Minimum system configuration required for SAT-504:

- Free USB port
- Windows XP / 7 / 8 / 10 operating system

SAT-504 USB / Bluetooth® modem fully complies with the communication requirements of HART® standard. To communicate via USB 1.1 or USB 2.0 port on the computer, it is necessary to install a USB / virtual COM port driver, which can be downloaded from the following website:
*https://www.ftdichip.com/Drivers/VCP.htm*

SAT-504 can be connected to the HART® device with two pieces of KLEPS2 tweezers. The modem is not equipped with surge protection so it is required to apply additional protecting methods which do not affect the HART® signal transmission.

Bluetooth®

In the future, additional devices and solutions for wireless communication are expected to be included in NIVELCO's portfolio.

| TECHNICAL DATA OF SAT-504 | |
|---|---|
| Power supply | USB or USB power bank |
| Power supply for HART® transmitter | 24 V DC ± 5%, maximum 22 mA |
| HART® resistance | 250 Ω, switchable |
| Bluetooth® version | 2.1 |
| Bluetooth® name, pairing code | SAT504-BT, 1234 |
| Current consumption from the USB port | <150 mA |
| Power consumption from the USB port | <1 W |
| Ambient temperature | -25 °C … +55 °C (-13 °F … +131 °F) |
| Housing material | Polystyrene |
| Connection (to PC) | USB 1.1 „B" socket |
| Cable (to PC, accessory) | USB „A–B" (1.8 m (5.9 ft)) |
| Connection (to HART® transmitter) | KLEPS2 spiral cable 1.1 m (3.6 ft) |
| Mechanical protection | IP20 |
| Electrical protection | Class III, 1 kV galvanic isolation |
| Weight | 0.1 kg (0.22 lb) |

# New features of NIVOFLIP

## New PED certificate, -60 °C low-temperature limit and other news

**DR. ATTILA AGOSTON**
Head of R&D

**NIVELCO Co.**
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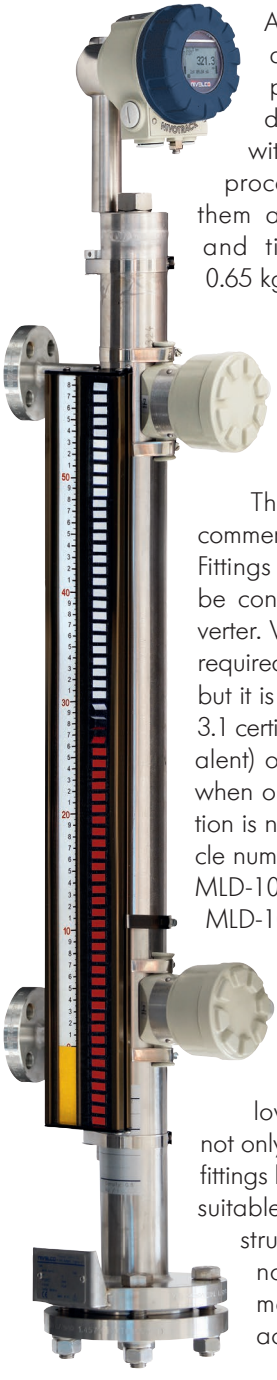
This year, PED certificate of **NIVOFLIP** bypass liquid level indicators has been renewed and the product line has been expanded with several long-awaited options.



A new feature of **NIVOFLIP**, already included in this year's product catalogue, is, that the device can now be ordered with DN16 and ANSI Class 150 process pressure options, both of them available with stainless steel and titanium floats (for 0.8 and 0.65 kg/dm$^3$ media density).

A less noticeable new feature is that aerating screws and drain screws are available with ½" NPT or ½" BSPT threaded borehole options. This allows the connection of commercially available valves or taps. Fittings with larger cross-section can be connected with a standard converter. When the latter is used it is not required to perform a new pressure test but it is important to use fittings with a 3.1 certificate (EN 10204 or local equivalent) only. Please tell us in advance when ordering if a ½" connection option is needed, indicating also the article number of the required spring bolt: MLD-105-0M-621-00 for NPT ½" and MLD-105-0M-611-0 for BSPT ½".

It is also a recent change that 1", 1½" or 2" NPT and BSPT process connection options have been introduced for the lower sealing flange. They can not only be used for connecting larger fittings but they also make our product suitable for connecting measuring instruments so that **NIVOFLIP** can now perform purely bypass or measuring chamber functions, according to the needs.

Another important novelty is the expansion of the temperature limit for both ambient and medium temperature. The lower temperature limits of previous -35 °C (-31 °F) have been increased to -60 °C (-76 °F). Thus, the operation area of **NIVOFLIP** has expanded considerably; the bypass level indicator of **NIVELCO** can now be used even in cryogenic applications and under Siberian conditions.

The design of high-temperature **NIVOFLIP** (MH version) has also been renewed. More efficient thermal insulation protects the bypass display and with that increases the heat resistance of the construction, so just like the standard design, the high-temperature one has now a polycarbonate protective window over the magnetic flaps, too. The temperature range limit is between -60 °C (-76 °F) and +250 °C (+482 °F) at an ambient temperature of -60 °C (-76 °F) and +60 °C (140 °F).

The MAK-100 optional level switch for **NIVOFLIP** bypass level indicators has received a new Ex certification. It is now available as "Ex d" instead of the previous passive, intrinsically safe version. The new classification marking is:

*⟨Ex⟩ II 2G Ex db eb mb IIC T6…T4 (ATEX)*

The MAK-100-7 version is also suitable for 250 V AC / 2.5 A power current, within Zone 1.

Because of the new features and several innovative changes listed in this article, application capabilities of **NIVOFLIP** have been expanded significantly and this allows us to be able to meet user needs regarding the bypass level indicator of **NIVELCO** more efficiently and flexibly.

# A promising distributor in the Middle East

## Introducing Topco, Iran

**MAHDI ASADI**
Sales and Marketing Manager

**TOPCO, Tajhiz Omid Pouyesh Co.**
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TOPCO is founded as a core of oil, gas, water and waste water business fields and its mission is becoming a leading provider of innovative solutions of related industries. Our expertise has led us to full and successful participation in several local projects in conjunction with our strong technical partners.

Historically, TOPCO is the newest generation of Omid Group which was founded in 1966 activated to import electrical devices for related industries and has been one of the first top ten professional companies of modern business in Iran. In 1999, TIPCO was founded by the next generation of OMID group and finally according to situation of market, TOPCO started its business as a separate and independent company in Control and Instrumentation field.

Our strategy in TOPCO is to innovate and professionally avoid energy, time and investment lost as a modern Engineering-Trading company and we try to use the latest proven technologies and systems in our projects in a long-term approach.

Notably, Iran is one of the most important petroleum hubs in the world due to its vast oil and gas resources. It is the 4th largest crude oil Producer, 2nd gas supplier and a petrochemical producer with 50 million metric tons products annually. Therefore, in order to make the best use of these resources, the up-to-date and high quality equipment in this industry is a matter of great concern. Actually, we want to develop our projects in a sustainable manner to meet local needs.

Beside the oil field, and since we faced with lack of water resources, the water and waste water projects have started to organize and manage the limited water resources. Hence, we must follow the whole projects both in oil, gas and petrochemicals and water/wastewater. In addition, thanks **NIVELCO** Process Control Company to accept our cooperation to achieve the great projects in Iran. Also it was a pleasure to pass a great training course at **NIVELCO** Company in March 2019.

Petrochemical plant – Iran

We had a great time to improve our knowledge in Instrumentation with concentration in **NIVELCO** devices. Since **NIVELCO** devices are qualified and competitive to compare with the other famous brands and based on our experience in oil, gas beside the water and waste water projects we present **NIVELCO** to the end users, EPCs and consultants. The non-contact devices surprised us during the training and made us happy and excited when we found the brand with these range of products, in other words: "*You can have all main measuring items from **NIVELCO** with a nice price and 3–5 years warranty! It sounds great, doesn't it?*".

# A partner from the other end of the world

## Introducing ESCO Argentina S.A., NIVELCO's new distributor

**LIC. NATALIA TARANDO**
Sales & Marketing Assistant

**ESCO ARGENTINA S.A.**
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Since 1992, ESCO ARGENTINA S.A. has been offering integral solutions in automation and process control, representing international companies to supply valves and field instruments.
The knowledge and experience of their professional team allows ESCO ARGENTINA S.A. to support their products with engineering and implementation services. Year after year, ESCO ARGENTINA S.A. has been growing in experience at the main markets in which it's developing: Oil & Gas, Refining, Pulp & Paper, Chemical, Petrochemical, Power Generation, Food & Beverage, and Water & Wastewater.

To deliver total satisfaction to the main markets, ESCO ARGENTINA S.A. is structured in four divisions:

- Field Instrumentation
- Valves & Automation
- Processes
- Engineering & Services

For today ESCO ARGENTINA S.A. has been able to position itself as one of the most important suppliers of process instrumentation, valves, engineering and services for Argentina as well as for South America.

### GRUPO ESCO

GRUPOESCO | ESCO ARGENTINA | ESCO SUDAMÉRICA | sudesco

At the beginning, ESCO ARGENTINA S.A. opened its main office in Buenos Aires, then in 2006 opened in Bahía Blanca to attend more closely the petrochemical center of this area.

And in the recent years the company has expanded with: an operation in Uruguay, called ESCO SUDAMERICA, to serve the South American market (Bolivia, Peru, Chile, Uruguay and Paraguay). And it also has an operation in Houston, called SUDESCO CORP, to improve its logistics and delivery times.
To continue with this expansion, the quality policy of ESCO ARGENTINA S.A. has been mainly oriented to the satisfaction of its customers and the quality of its products. The entire organization aims at the optimization of resources and the generation of added value at all levels, as a means towards continuous improvement.
Because of that The Management System of ESCO ARGENTINA S.A. has successfully passed the audit of Certification: ISO 9001:2015, certified by TÜV Rheinland this year.
This was our booth at TECNO FIDTA 2018, the International Exhibition of Food Technology, Additives and Ingredients. It is the most important event in South America, where the latest technologies from all


around the world have been exhibited. And ESCO ARGENTINA presented here the products of **NIVELCO** for the first time!
We hope that our cooperation with **NIVELCO** is going to be successful and advantageous for both parties.

# Thirty years of finance and labor affairs

## Interview with Kati Farkasné

**BENJAMIN SZŐLLŐS**
Marketing

**NIVELCO Co.**
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NIVELCO Christmas Party – 2002

**–When did you first hear about NIVELCO and how did you become a company employee?**

– I came to NIVELCO on May 5th, 1989, recommended by Zoltán Szabó, the chief accountant back then. He was my boss at my previous job as well and I was happy to have the chance to work together again. I was hired by András Szőllős, financial director of the company with whom I had a very good working relationship.

**– How do you recall the beginnings?**

– The company had a very familiar atmosphere and I quickly got to know every thirty colleagues of mine. I settled in smoothly as everyone was very kind and supportive. I might have been the youngest employee if I remember correctly.

– Our seat was in the 13th district at Béke street back then so I also started working there. Later, Accounting was relocated to Fivér street where also our store had been. Production and Development were based at Övezet street and Gyöngyösi street.

**– In which positions have you worked so far?**

– I have held several positions over the past thirty years. At the very beginning, I worked as a bookkeeper and payroll specialist, as well as a cashier. After first returning from maternity leave, I got employed as a sales administrative assistant, then, after my second maternity leave, I started working as a stock material accountant. In 2005 I returned to bookkeeping and since September 2006, I have been working as a payroll specialist.

**– What is in your opinion the key of NIVELCO's success?**

– I see NIVELCO's success in many years of manufacturing experience, the ability to adapt rapidly to the current market situation and in continuous product development.
– Of course, professionalism and responsible work of the employees are also essential to succeed.

**– Why do you think NIVELCO is a strong market player and how could it maintain this strength in the future?**

– I think NIVELCO will be able to stay strong and successful if we continue to produce instruments for which there is a constant demand. It is also very important that employees shall be motivated and interested in the success of the company.

**– What are/were the most memorable moment(s) for you at NIVELCO?**

– Many things have happened during those 30 years so it's hard to highlight the most memorable moments but summer garden parties, boat trips, and Christmas celebrations definitely belong here. Those were the events which best illustrate that typical familiar atmosphere of NIVELCO.

**– Thank you for the interview!**

# 25 years of Marketing and Desktop publishing

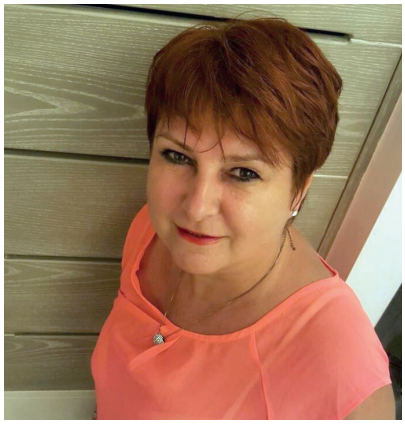
## Interview with Ágnes Szentiványi

**BENJAMIN SZŐLLŐS**
Marketing

**NIVELCO Co.**
benji@nivelco.com

**– When did you first hear about NIVELCO and how did you become a company employee?**

– I saw a job advertisement of NIVELCO back in 1994 which caught my attention but I didn't apply first. The job description and duties, however, seemed very attractive so the thought was always at the back of my mind. Finally, after about two weeks of struggling, I decided to apply if the position is still available. In November it will be 25 years since.



**– How do you recall the beginnings?**

– The technology was quite rudimentary back then compared to the present situation. Desktop publishing software programs just came out which made it possible to create better-looking and more eye-catching publications. However, using these programs – due to available hardware options at that time – was not always effective. Often a simple operation took a very long time. Nonetheless, the evolution of this technology has also inspired us to create new and more appealing materials for users. This way we could help our customers to get more familiar with NIVELCO products and be able to use them easier.

**– In which positions have you worked so far?**

– I started working at the marketing department (led by Tibor Winkler at that time) as the only publishing editor. In addition to editing, my tasks included ordering printing materials and keeping in touch with the external graphic artist, photographer, and subcontractors, as well as designing and editing our previous website, which was quite rudimentary back then. Years later the number of tasks to be done increased so quickly that it was necessary to expand the staff and then I became head of publishing.

**– What is in your opinion the key of NIVELCO's success?**

– My opinion is subjective, I'm not an economic analyst so I cannot judge professionally the secrets of a company's success or key to its future. I have of course my own thoughts on this which are either correct or not.

I think success comes from professional commitment and continuous hard work, and I witnessed over the years that both factors were equally important to the owner and employees of NIVELCO. The company has been able to keep up with market needs and make good decisions at the right time. And maybe one more thing; people did not just "work" here but it mattered to them that what they did was productive and useful. They did their job of knowing that for the success of the company everyone had to do their own part and contribute. As for the owners, we have always experienced a safe and cultured background which is not necessarily the case at other workplaces.

**– Why do you think NIVELCO is a strong market player and how could it maintain this strength in the future?**

– As I have already mentioned my area of expertise is not the economic analysis but I would like to believe that if we keep having such wonderful colleagues as mentioned before, we will continue to be successful in the future.

Ági as DTP team leader in 2007

**– What were the most memorable moments for you at NIVELCO?**

– I can't highlight such a memorable moment or moments. I like to work here and I feel I have made a very good decision 25 years ago when I became a NIVELCO employee.

**– Thank you for the interview!**

# An exemplary application from Poland

## NIVELCO helps to improve environmental protection in the zinc industry

**DARIUSZ PISZER**
Managing Director

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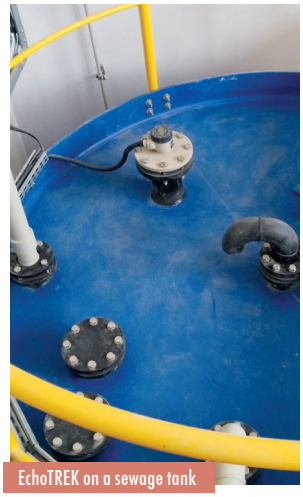
In today's world, the problem of reducing environmental pollution plays an increasingly important role and both private individuals and industry should be guided by the principle of creating the least possible risks and impact on the environment.

The production of zinc and lead – metals commonly used in many branches of industry – entails many environmental hazards. One of them is post-production sewage with a high content of heavy metals such as cadmium and thallium and other dangerous elements. It is an effect of social responsibility of an important zinc manufacturer to protect local people and nature, that some time ago there were made decision to build brand new neutralization and sewage treatment installation.

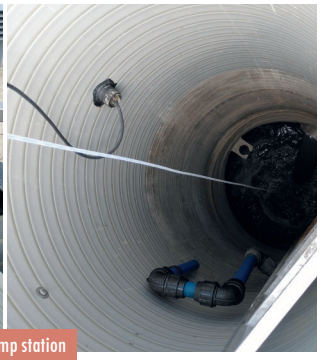
View with RFM

NIVELCO-Poland has helped to solve some of the issues of level, flow and analysis measurements in the planned installation of the industrial wastewater treatment plant and in early 2017 we delivered several different instruments for the plant under construction, which started its work in May 2017.



EchoTREK on a sewage tank

Lime milk pH measuring



Main pump station

The beginning of the process is the main sewage pumping station, where due to the aggressiveness of the medium, the presence of vapours and similar obstacles we proposed a proven **MicroTREK**-type microwave level meter with a PFA-coated probe.

Depending on their parameters, various types of ultrasonic level meters from the **EchoTREK** family were used on sewage tanks.

To measure the pH of wastewater and lime milk used for neutralization, **LGP** meters from the **AnaCONT** family were used.

An interesting solution is to use a vibrating level indicator type **NIVOSWITCH RFM** to detect the presence and supply of medium in the feed pipe to the tank.

Above described application is a good proof that occasional "news" about the death of ultrasonic level measurement technology are overstated and that **NIVELCO**'s **EchoTREK** transmitters can provide reliable and undisturbed measurements for many years and at a very economical investment.

### EQUIPMENT USED IN THE APPLICATION:

**On main pump station:**
- 1× MicroTREK HTM-505-4

**Sewage level measurement:**
- 8× EchoTREK SGP-364-4, 3× EchoTREK SGP-374-4
  6× EchoTREK SGP-384-4

**Level detection:**
- 1× NIVOPOINT MRC-423-3

**Liquid presence (flow) in pipe:**
- 1× NIVOSWITCH RFM-500

**pH measurement of sewage and lime milk:**
- 3× AnaCONT LGP-131-4 + LAP

**Flow metering:**
- 1× ISOMAG magmeter

# Challenging open channel flow measurement

## EchoTREK and EasyTREK level transmitters in action in South India

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Manager, Marketing
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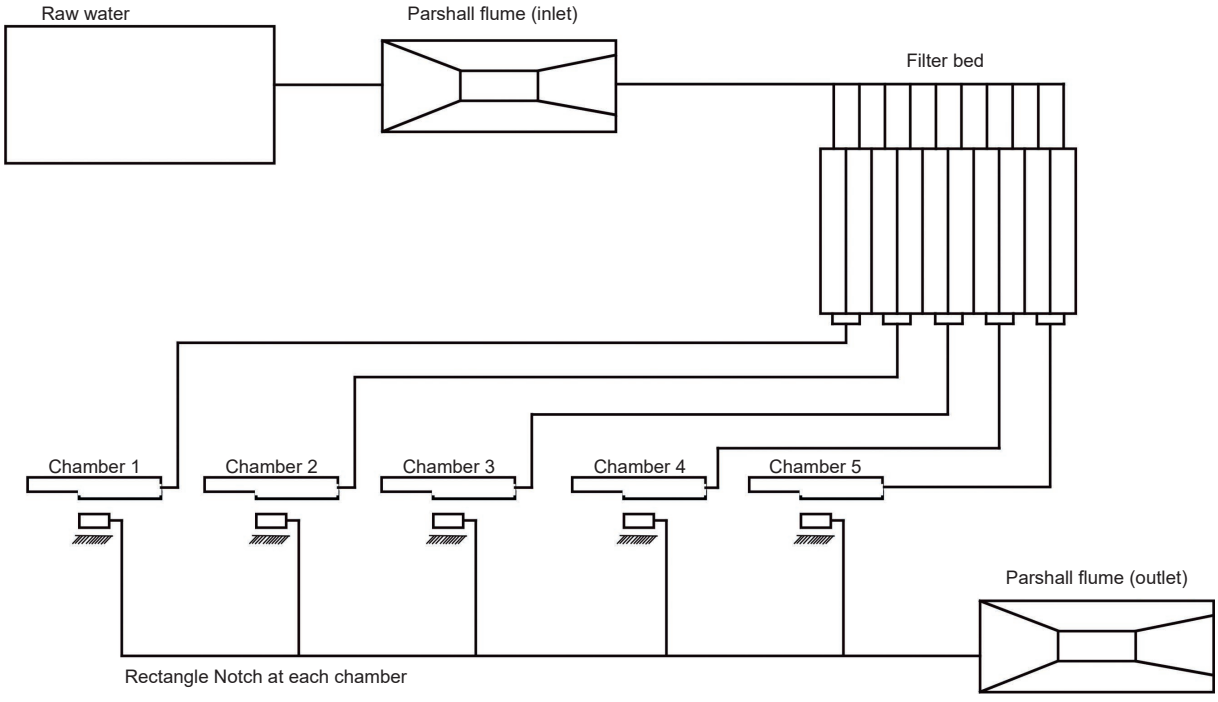



The following NIVELCO devices were put into operation during the project:

- Total number of **EchoTREK SGP-380-2** compact ultrasonic level transmitters used for open channel flow measurement: 7
- Total number of **EasyTREK SPA-580-4** integrated ultrasonic level transmitters used for level measurement: 13

NIVELCO India received a challenging enquiry for open channel flow measurement and level measurement for a water treatment and storage plant from Kerala Water Authority Board for their Thrithala 33 Mld (million liter per day) Water Treatment Plant in South India through NIVELCO India's Partner M/S AUTOMATIX from Ernakulam, Kerala.

The task was quite challenging because of the complex customer requirements which were the following:

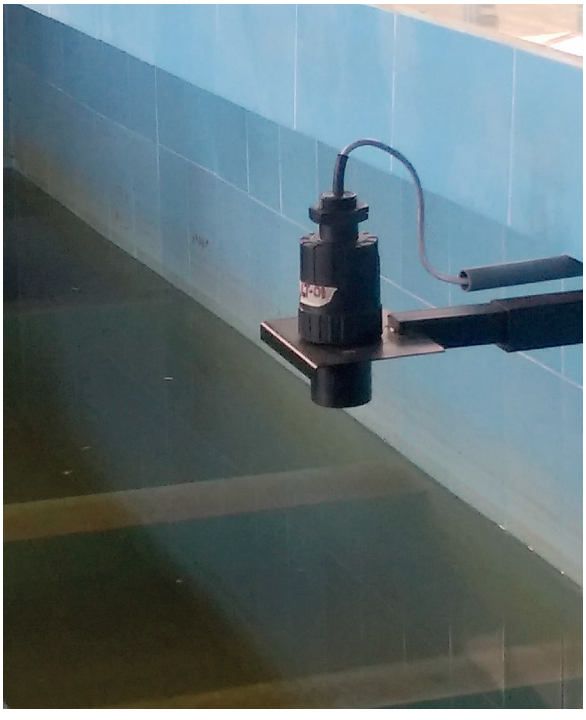
- flow measuring of raw water at the inlet, then
- five flow measuring devices on water collecting chambers after the filters, and
- measuring the final outlet flow where the flows from all five water collecting chambers were getting cumulated to make final outlet flow of treated water.

In the system to be installed it was necessary to match the related flow from each filter with the final outlet flow meter. Also, all the flow and level data were to be continuously monitored on the PLC for 24 hours a day by the customer.

Initially at each water collecting chamber it was decided to install a V notch but it would have been difficult to install any flume inside the chamber due to the very limited space available in the chambers.

Hence, it was an advantage the shape of the cross-section of the chamber outlet, which was rectangle, and, with some changes, was taken to act as a rectangular flume.

NIVELCO EchoTREK ultrasonic level transmitters were utilized for the total of five water collecting chambers for providing open channel flow measurement by installing them at each chamber and configuring them for measuring in a flume having rectangle cross-section.
Both for the inlet raw water and the outlet treated water flow measurement Parshall Flumes were installed which were manufactured by NIVELCO India. Here the flow measurement was also achieved by installing NIVELCO EchoTREK ultrasonic level transmitters configured for measuring in Parshall Flume.
Total number of EchoTREK level transmitters utilized to measure open channel flow measurement were seven (five for water collecting chamber flow measurement, one for the inlet flow and one for the outlet flow). The Flow Indicator Totalizer manufactured by NIVELCO India was used for totalization of flow values and for remote monitoring of the flow rate.




Again, the challenge here was to match all the flow calculations at each and every stage of the flow in the water storage sump, which was achieved by taking benefit of the high accuracy of NIVELCO's EchoTREK ultrasonic level transmitters.
EasyTREK SPA-580-4 integrated ultrasonic level transmitters were installed to measure the level of filter beds as well as the treated water sumps. Total number of filter beds was 8 and total number of sumps was 5 so total number of EasyTREK tranmitters utilized for level measurement was 13.
Our customer is completely satisfied by the performance of all the NIVELCO instruments and also the support and competency provided by NIVELCO India.
NIVELCO India gives special thanks to M/S AUTOMATIX for their valued cooperation during the execution of the whole project.

# LevelBOY, the level measurement expert

## Remote tank level measurement

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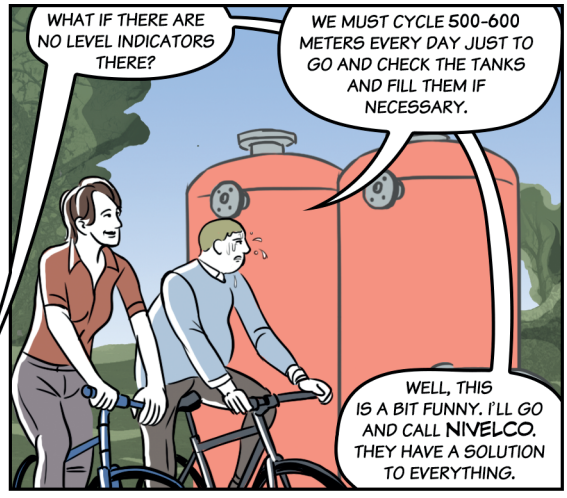


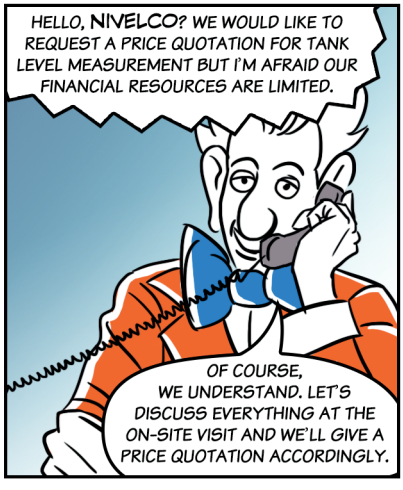


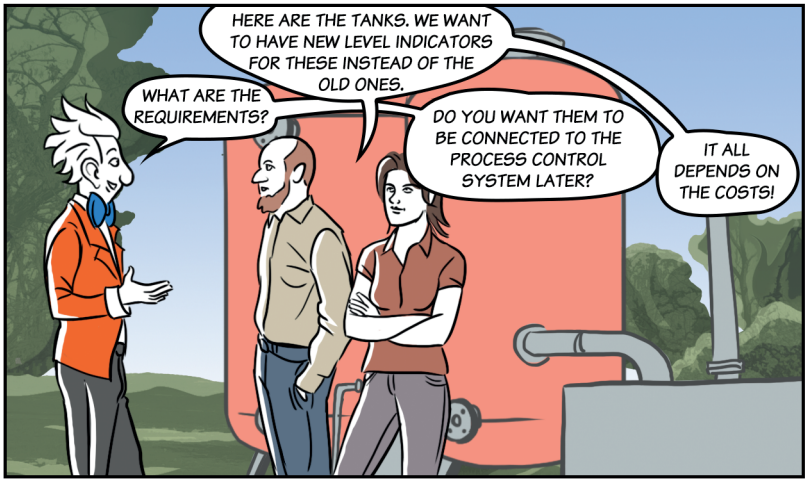


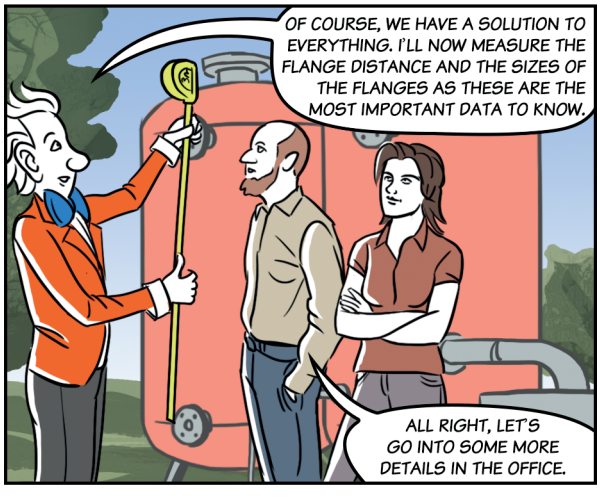


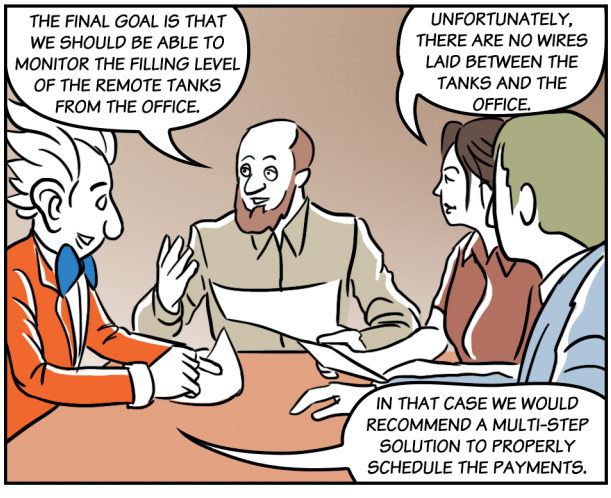

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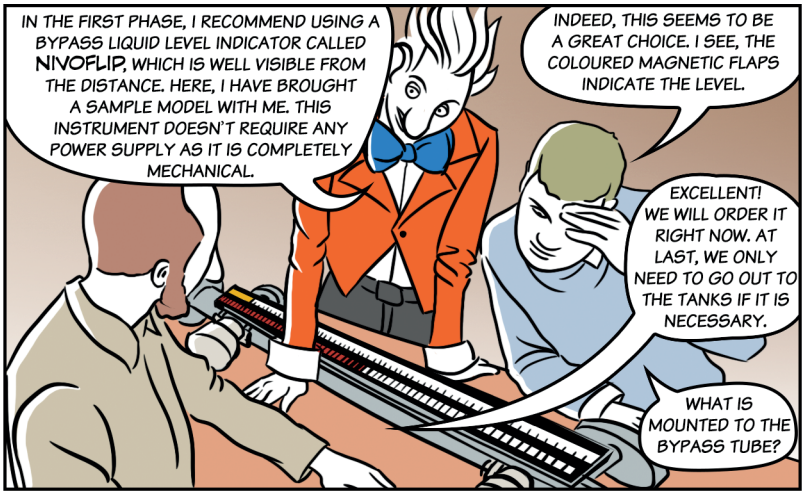


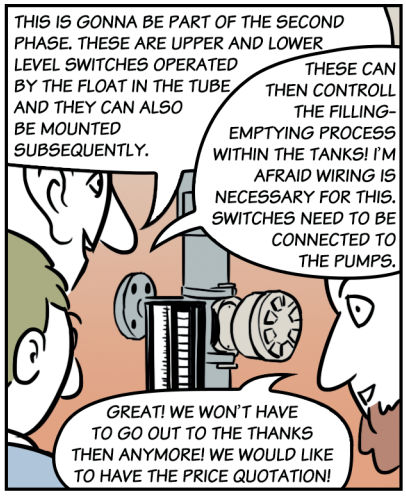


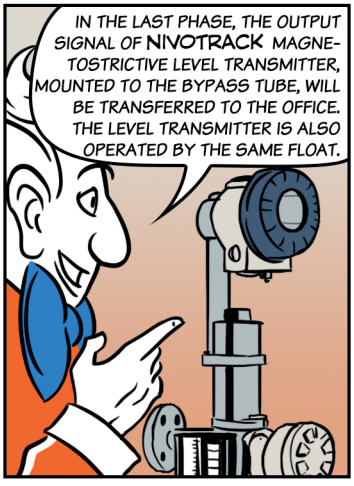



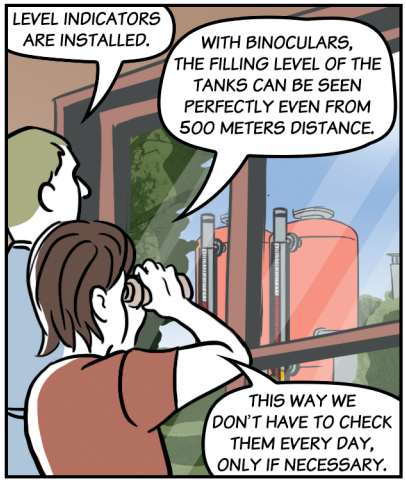


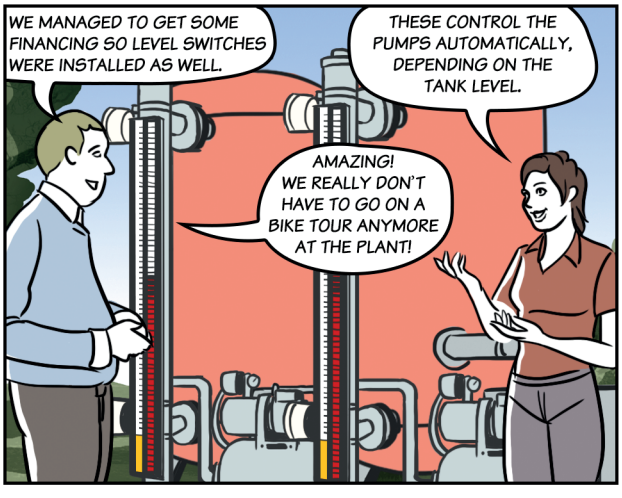


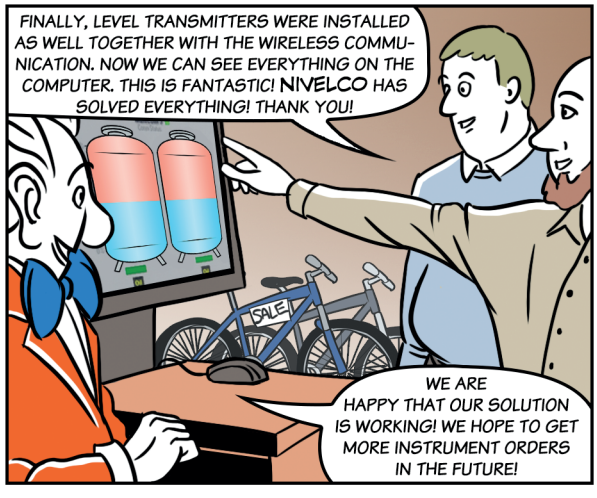

# Solution for the Czech beer industry

## NIVELCO instrumentation in ammonia refrigeration

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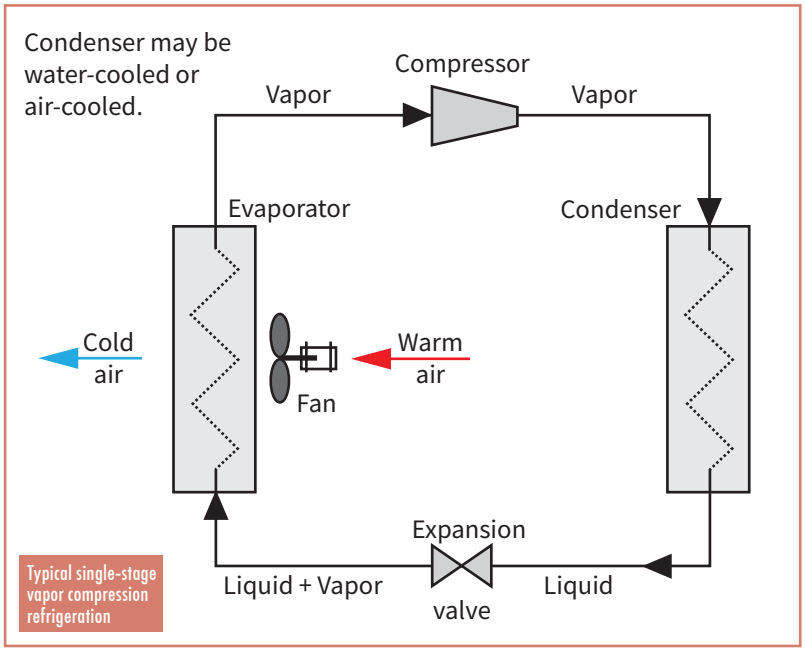
The Czech Republic, at least among countries within Europe, is well recognised for its' beer industry. Statistics from 2017 show that the Czech Republic is the 8th biggest producer of alcoholic beer and the 3rd biggest producer of non-alcoholic beer in Europe. The most popular brands such as Pilsner Urquell, Gambrinus and Kozel are produced by the biggest and oldest brewery Pilsner Urquell (Plzeňský Prazdroj) with its' foundation dating back to 1842. Other top selling brands are Radegast, Staropramen and Budweiser Budvar.

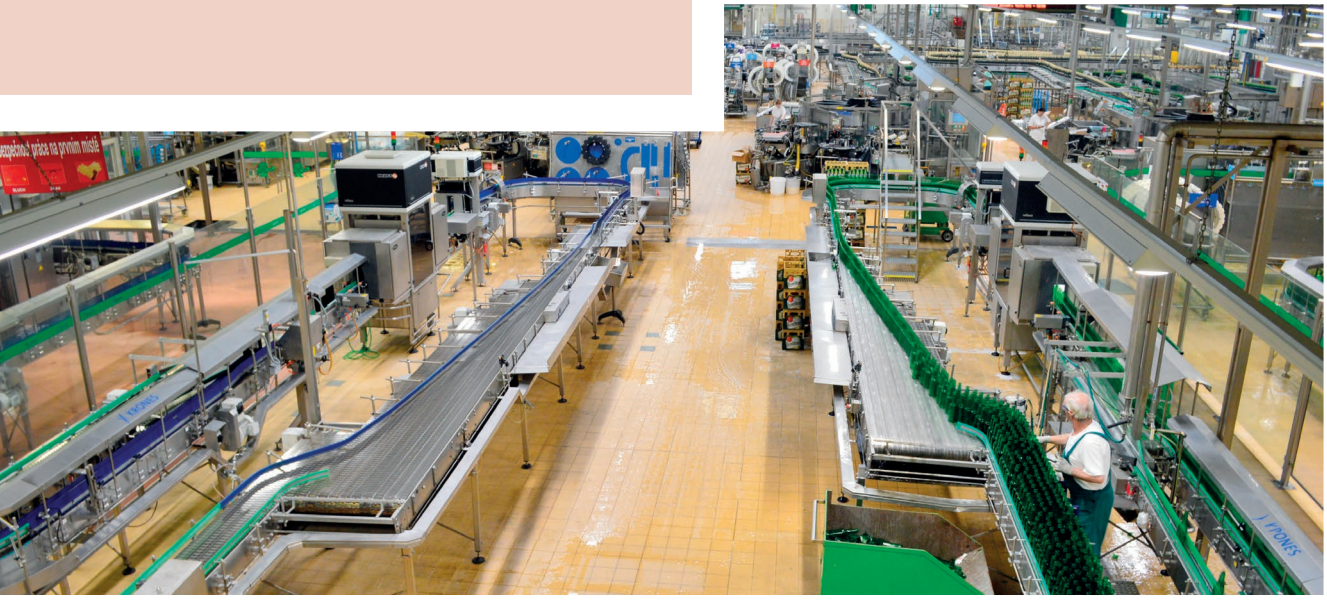
The consumption of beer in the Czech Republic has been in downtrend in recent years after reaching a peak of 161 l per capita in 2003. The latest data from 2017, however, still indicate that 137 l per capita is the highest in the world and almost 30% higher than in Poland on the second place and Germany right behind. It should not be a surprise for any tourist to find out that the price of draught beer per dl is actually cheaper than mineral water in many bars and restaurants.




Typical single-stage vapor compression refrigeration

**NIVELCO Bohemia**, representing **NIVELCO** Process Control Co. in the Czech Republic has enjoyed this working environment and built direct and indirect business relations with many local breweries. An interesting application of **NIVELCO** products in collaboration with several business partners is for example beer cooling during fermentation process.

Depending on the type of yeast, brewing process requires stable temperature not higher than 22 °C, but the days when breweries stored beer in long underground tunnels and used ice for cooling are long gone. The most common type of cooling nowadays is called ammonia refrigeration.



In simplest terms, liquid ammonia is used in refrigeration systems because it can absorb great quantity of heat when evaporating and therefore reduce the surrounding temperature to a big extent. The process of evaporation is based on vapor-compression cycle, where liquid ammonia is pushed through the system and undergoes state changes (liquid to gas and back) by applying changes in pressure. This method is the most widely used in air-conditioning and in domestic and commercial refrigeration.

Liquid ammonia is stored under pressure in a metal tank and requires constant level monitoring. The conditions for the level measurement are quite challenging ranging from high pressure and extremely low temperatures (up to -40 °C) to aggressive vapours with ability to penetrate through various plastics over time. Common in the industry is level measurement by mechanical bypass chamber attached with electronic level transmitter such as NIVELCO's NIVOFLIP and NIVOTRACK.

NIVOFLIP is a bypass chamber indicator made of non-magnetic material i.e. stainless steel with a cylindrical float in the inside and coloured magnetic flaps on the outside. The float, specifically selected from titanium due to very low density of liquid ammonia, has a magnet inside that can affect magnetic flaps through the wall of the bypass chamber and turn them over as the float moves with the level of the liquid therefore changing their colours by which the level is visually indicated. The connection to the tank is made of two neck flanges. However, when handling liquid ammonia, the regulation requires that all flanges must be of types C (tongue face) or D (groove face) and designed to withstand min. 40 bars.

NIVOTRACK is a level transmitter with magnetostrictive wire stretched along a guiding element (a rigid pipe, or a flexible rope). The wire has the ability to create a deformation in point, which is exposed to magnetic field (due to the magnet inside the float of NIVOFLIP) and this deformation generates an acoustic wave which travels in the wire with defined velocity. The time it takes for the wave to travel from the position of the float to the electronics of the transmitter is used for calculating a precise position of the deformation therefore level in the bypass chamber, which is the same as level in the tank. The main function of NIVOTRACK is to transmit level data to continuous 4 – 20 mA output, which can be processed further in the control system.

In collaboration with our business partners, we have successfully implemented several applications of level measurement of liquid ammonia using NIVOFLIP and NIVOTRACK and we expect more to come in the future. The harsh environment has had no effect on the condition of our instrumentation nor their ability to perform a reliable measurement.
If readers have any questions about this article, please contact us at *bohemia@nivelco.com*.

# MicroTREK success in the US again

## Cooper Tire carbon black silo storage vessel application

**DAVE MILLER**
Managing Director

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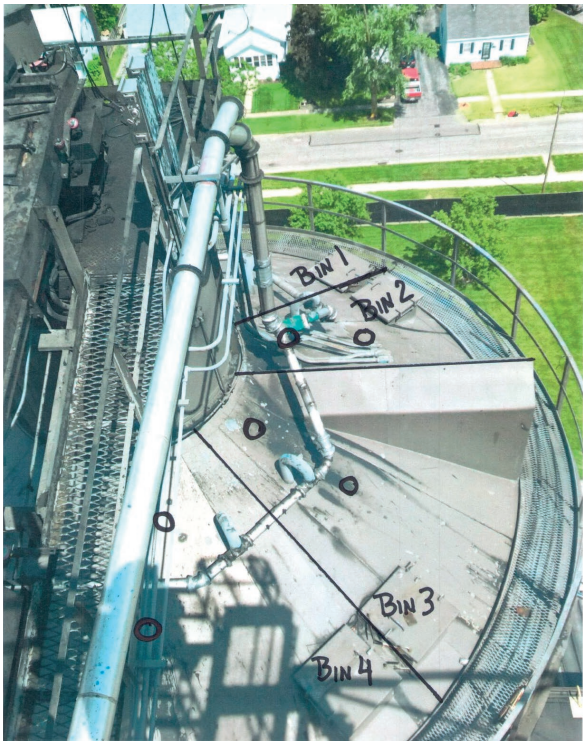
Cooper Tire and Rubber Company is a global producer of a full line of tires for the automotive and truck markets, and it is the 13th largest tire manufacturer in the world and the 5th largest in North America. Cooper Tire's annual revenue is around $3.0 billion USD and the company employs close to 10,000 people worldwide.

They are headquartered in Findlay, Ohio, USA, where they were founded in 1914. The company has manufacturing facilities on three continents, subsidiaries, sales and distribution networks around the world. In addition to a full line of automotive and truck tires, subsidiaries make specialty medium truck racing and motorcycle tires.




Their plant in Findlay Ohio requires a huge amount of Carbon black powder, an essential component in the manufacture of tires, that is produced and stored in large silos at the Findlay, OH facility. Carbon black is a material produced by the incomplete combustion of heavy petroleum products such as FCC tar, coal tar or ethylene cracking tar. It has a dielectric constant of about 2.4 and is considered a difficult measurement for most traditional technologies. Carbon black is used as a pigment for the production of ink and paints and as reinforcing and other purpose fillers for tires and other rubber products.

When the plant engineer at their Findlay, Ohio plant contacted the local **NIVELCO USA** representative, to find a better measuring solution for their carbon black silos, he expressed interest in **NIVELCO**'s **MicroTREK** guided wave radar. The measuring method Cooper Tire was currently using was a plumb bob electro-mechanical gauge, but this device had limited measuring range. The application of **MicroTREK** would offer a more efficient, reliable and continuous measurement of their silo bin level compartments.

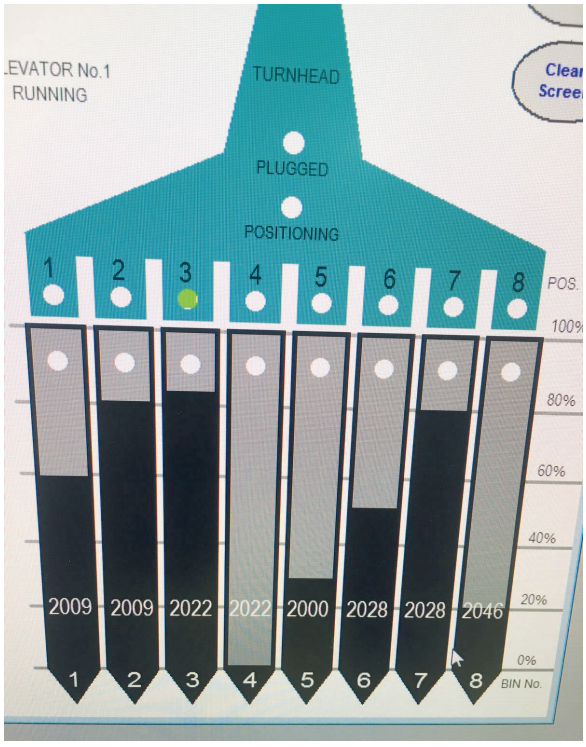
The key to the success of any **MicroTREK** transmitter application is proper installation. The **NIVELCO** representative indicated the customer wanted assurance that **MicroTREK** would be able to measure inside the cone bottom of the silo. To assist **NIVELCO**'s evaluation of the application, the customer provided a detailed drawing of the silo, as well as pictures of the top of the 82-foot-tall (25 m) vessel with potential mounting locations shown at the top of each bin. The silo drawing submitted indicated they wanted to measure close to 90% of the silo capacity which means 67 feet (20.4 m) measuring length. The print also showed the lowest level the plumb bob can measure – approximately 30% capacity (or 40 feet, 12 m), leaving a considerable portion of the carbon black powder unmeasured.

After review of the information provided by the customer, **NIVELCO** advised that ideal installation of **MicroTREK** would be via a short 1–½" NPT nozzle located so that the probe would not come closer than 3 feet (91 cm) to any possible disturbance in the silo, such as ladders or supports. The probe should not come closer than 2 ft (60 cm) of the coned silo bottom.

**NIVELCO** advised that the probe counterweight could touch the silo wall but the bottom cone would degrade the sensitivity of **MicroTREK** if it would be too close to the probe.

The customer was happy with our news that, if **MicroTREK** was installed according to **NIVELCO**'s recommendations, a probe length of 822" (68.5 feet, 20.87 meters) could be used in the silo – a significant increase in measuring range over their current measuring method.

Cooper Tire ordered one **MicroTREK HBJ-421-4** with 822" insertion length 8 mm flexible cable probe as a test transmitter. **MicroTREK** was installed according to **NIVELCO**'s recommendations and the test transmitter was a success. As a result, Cooper Tire ordered seven more transmitters for the remaining carbon black silo bins. After the installation **NIVELCO**'s representative received the following message from the customer:




*"– Very Good News!!! We now have the final seven (7) **NIVELCO** Guided Wave Level Sensors installed in all the bins. On installation and commissioning, none of them had any interference; no mapping was required and all are working properly."*

*Cooper Tire Engineer*

# A really unusual application from the USA

## Vibrating rod prevents fish overfill at Gulf Coast fishery

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Managing Director

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MENHADEN
*the most important fish in the Bay*

NIVELCO USA has several great partners across the United States that brand label the quality instruments of NIVELCO. One of these is an established and well known manufacturer of point and continuous products used in the bulk solids, powders and particulate segment of level controls.

In this interesting and a bit unusual application, one of the partner's level switches, a vibrating rod is being used in a fishery at the Gulf Coast to prevent a tank from overfilling of Atlantic Menhaden fish. Atlantic Menhaden fish is fished in bulk to be used in fish oil production and fishmeal products.

Fish oil is rich in Omega-3 fatty acids which are rich in nutrients that are considered very healthy e.g. they prevent heart disease and may help reduce high blood pressure. Fishmeal is used in pet food aquaculture and animal feeds.

The fishery can process up to 120 tons of raw fish per hour. The fish are loaded from fishing boats and fed via conveyor to the plant. The conveyor then drops the fish into the large holding tank shown in the figure below.

When the level of product (actually the fishes) reaches the vibrating rod, the system shuts down under control of the vibrating rod to prevent overfill and spillage.

From the tank, the raw product is transferred to the machinery where it is processed for the fish oil and fishmeal.

Due to the reliable system, the amount of waste generated during the process is very low. Any product not used in the production of fish oil or pet food is used for high quality animal feeds, which is also rich in Omega-3 fatty acids.

Once again, NIVELCO quality level control instruments can be counted on to reliably and continuously control product level without concern or worry of loss or spillage even if the product is something special like in this application.

# NIVELCO publication in ICR Magazine

## EasyTREK, MicroTREK, NIVOCONT and others in a major international journal

International Cementreview
INTERNATIONAL CEMENT REVIEW FEBRUARY 2019


As a recognized global player in industrial level measurement, NIVELCO has been invited to publish in a major international journal the International Cement Review. We are always really glad and proud of having the opportunity such as that.
The article on the applications of NIVELCO measuring instruments in the construction industry can be read in the February 2019 issue of ICR, and now here, in the NIVELCO Magazine, see below.


## MEASURE AND MOVE

Meeting the growing demand for building materials requires accurate and reliable measurement of material flows throughout the production facility. The installation of state-of-the-art level sensors can greatly support the efficient flow of materials through production units such as cement plants.
by NIVELCO, Hungary

Demand for high-quality concrete is growing rapidly due to the changing requirements of the construction industry. To satisfy this demand, concrete production requires state-of-the art instrumentation and the computerised control of key equipment such as cement, sand and gravel storage silos, as well as auxiliary storage tanks, water tanks, weighing systems, mixers, mixed concrete storage tanks and truck washing systems.

### Concrete production plants

Where solid material levels need to be measured, filling and emptying processes can often cause coning or arching. These effects needs to be carefully monitored to achieve appropriate level measurement. For example, ultrasonic level transmitters usually have a joystick-type feature to support this function. Despite further challenges such as dust, high noise levels and strong vibrations, level sensors need to work reliably in 15 – 30 m high silos and provide accurate information about stored volumes in the silos, regardless of whether the material is a fine powder or a large aggregate.

### Cement storage silos

In cement storage silos, it is important to continuously monitor the level of cement, the air pressure above the cement level and provide indications of high and low


NIVELCO installed its MicroTREK solution in a concrete production plant in Hungary

fail-safe levels. In these demanding conditions, guided microwave level transmitters are recommended for level measurement. For low/high fail-safe switching the installation of rotary paddle level switches is advised while for pressure measurement pressure transmitters are recommended.

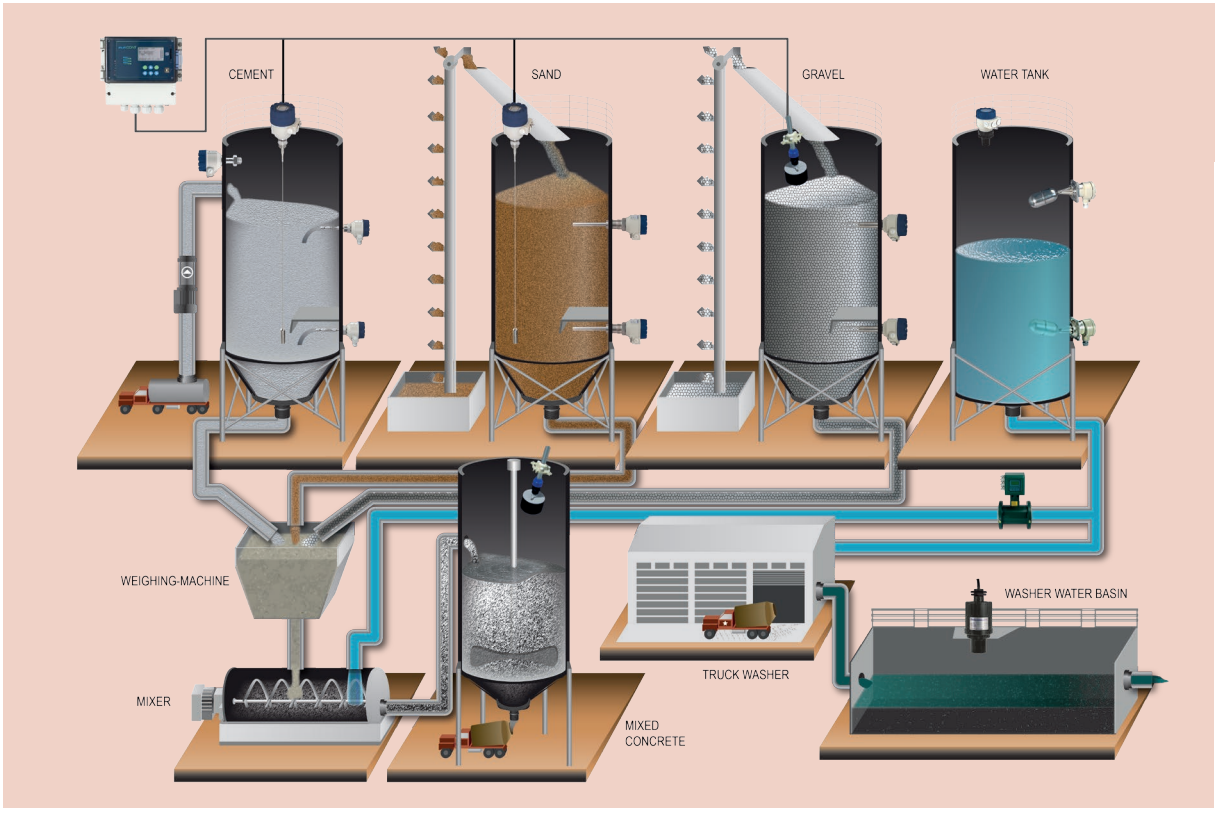
### Sand/gravel storage silos and water storage tanks

Continuous level measurement in sand or gravel storage silos can be carried out by ultrasonic level transmitters. For low/high-level switching vibrating rods or vibrating fork level switches are recommended. The low-level switches always have to be mechanically protected from damage by a plate mounted above them. For level measurement in water storage tanks, ultrasonic level transmitters are recommended.

## Case studies

### Construction material storage, Czech Republic

One of the leading fire clay brick and insulating material producers in the Czech Republic decided to




expand its storage facilities with more than 20 new silos to store a range of free-flowing, solid construction materials. The company required the following key issues to be addressed in terms of the project's instrumentation:

- high failsafe indication
- high reliability
- minimum two-year warranty.

Following a technical evaluation of submitted bids, two companies were chosen to test their solutions and provide evidence of their respective technology's reliability while being applied in a very dusty environment. As the project required non-contact continuous measurement in the silos, **NIVELCO** recommended the use of its ultrasonic level transmitters. The joystick of the company's ultrasonic solution enables an easy approach to finding the optimal sensor positioning, a key aspect due to the coning and arching that takes place in the silo during emptying and filling.

Following the successful outcome of the test, **NIVELCO** was awarded the instrumentation contract which included technical support and a five-year warranty (from 2018). As a local display of the measurement was not required, integrated ultrasonic transmitters (**EasyTREK** SCD-34J-4) were installed. The high-level limit indication was performed by vibrating rods (**NIVOCONT** RKK-502-1). Measurement data for all silos was supplied to a PLC which controls the emptying/filling process in accordance with the levels measured by the transmitters. Since commissioning, the instruments have operated to the customer's great satisfaction.

## Cement plant, Hungary

At a cement plant near Budapest, Hungary, ultrasonic level transmitters (**EasyTREK** SCD) were used for the continuous level measurement of two 20 m-high limestone grit storage silos. Additional vibrating rod

Testing an ultrasonic transmitter to show a possible client the potential of a non-contact continuous level measurement

(NIVOCONT R) level switches with a cable extension are responsible for high fail-safe indication. Despite the harsh, heavy-duty environment the instruments meet the plant's requirements and have proven to perform reliably.

## RMC producer, Hungary

A ready-mix concrete producer in Hungary modernised its Budapest plant, which included two 9 m-high and one 12 m-high cement silos as well as a 12 m-high fly ash silo. The outdated capacitive level meters installed in the plant's four silos were providing unreliable readings with one not performing in line with requirements at all. Measurement errors of around 20 per cent were recorded as the humidity of the gravel and cement considerably impacted the measurement. To improve operations, the units were replaced with guided wave radars (MicroTREK HTN). The equipment's Ø8 mm stainless steel cable probe can easily withstand the significant tensile forces caused by the material during the filling and emptying of the silo.

The measured level values of the four silos are displayed and processed in the control room by a multichannel process controller (MultiCONT). The level transmitters are operating in a HART® multidrop loop and send the measured values to the controller via hart communication. The level data coming from all four guided-wave radars is displayed both in a numerical format and on bar graphs on one screen for a clear overview of material levels. Processing and displaying the data serves two purposes:

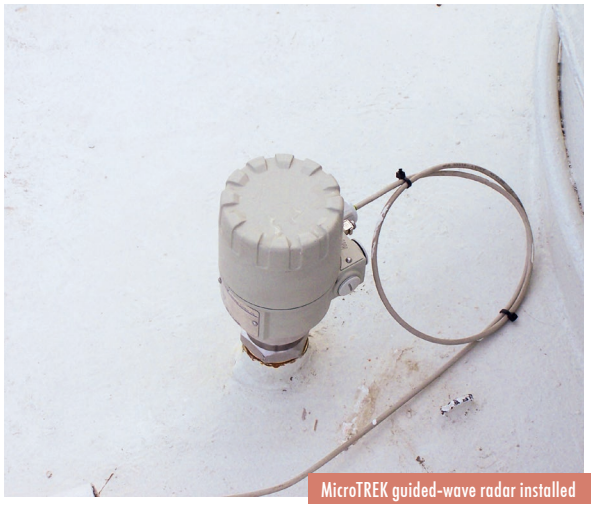
1. the provision of level information to the plant operators
2. control of the four integrated relays for high fail-safe level switching.

The controller was ordered with an RS485 output, which enabled its connection to a PC-based process control system for further data logging and process visualisation.

## Cement, sand and gravel storage, Poland

A Polish customer required the replacement of an outdated level metering system to control the level of sand, cement and different types of gravel in segmented 10 m-high silos within a very dusty environment. Moreover, the materials are loaded directly into the silos, producing high noise levels and strong vibrations, which placed additional demands on the level sensors. Therefore, the system not only needed to ensure accurate readings but also safety with a fail-safe high level indication, even in the case of a failure of the level measurement.

NIVELCO proposed the use of ultrasonic level meters for solids with HART® communication. Additional elements of the system included a process controller unit expanded with universal interface modules for control of filling and emptying the chambers of the silo as well as to generate a high-level alarm. As a result of the installation of state-of-the-art level measurement equipment, the control process for filling and emptying became not only more efficient but also fail-safe with additional ultrasonic instruments providing overfill protection.



MicroTREK guided-wave radar installed

All of the level measuring equipment's control and alarm signals were integrated with the existing control system on the plant. The installed system helps to improve working conditions as well as health and safety as plant personnel are no longer exposed to high levels of dust and other conditions that are detrimental to their health.

## Level success

In all of these cases, the level instruments supplied work reliably and provide accurate and credible sources of information about the material levels in the silos.

# Sewage grinding with NIVELCO assistance

## Special application example with EasyTREK level transmitter

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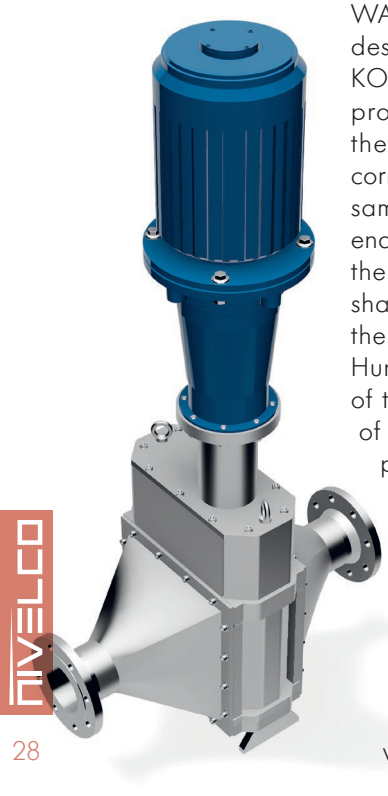
Sewage grinder is an equipment designed to prevent daily problems caused by extraneous materials in water utility operation and is suitable for grinding up troublesome solids in wastewater. Such troublesome materials are wet wipes, diapers, building debris, woody debris, pavement pieces and similar impurities. A sewage grinder can be used to efficiently protect the sewage network and the wastewater treatment plant technology (lifting pumps, plant dispensing pumps, automatic sieves, mixers, air-powered pumps, sludge-feed pumps, sludge dispensing pumps, sludge dewatering systems etc.) from damages and defects caused by the solids.

After assessing market demands and user and technical requirements for such solutions, in the year 2016 WAPPtech Ltd. developed the first domestically produced sewage grinder, called the WAPPrito®. Members of the product family are available in two versions: the open-ended versions for open drainages or lifting shafts, and the closed-ended versions, which can be built into the pipelines.



WAPPrito® has a quite robust design and is made from a KO35 Ti high-quality acid-proof construction material therefore it is resistant to corrosive medium while at the same time the double shaft-end sealing effectively protects the support bearings of the shafts. All mechanical units of the instruments are made in Hungary so the maintenance of the devices and the supply of spare parts can be easily performed. Being the parts most exposed to abrasion, cutting blades can be replaced and varied one by one so the equipment is both an appropriate and economical solution also for the operational side of wastewater treatment.

WAPPrito® sewage grinder can be operated in two ways, either on a time-basis or with a level control. In case of a time-based operation, relying on the operator's experience, a pre-written program starts and stops the grinder according to the timings set. When level control is applied for operating the sewage grinder, an external level measurement device provides the start / stop signal in response to the current flow and wastewater level and the occasional backflow conditions.

The many years of professional experience of the local colleagues in design and development as well as their expansive practice in installation and maintenance of sewage grinders proved to be a huge help in choosing the right level measurement device for WAPPrito®. Solving this level measurement issue with a domestic partner being one of the main objectives, NIVELCO was an obvious choice, as well as his EasyTREK ultrasonic level transmitter which has already proven to be an excellent option in many cases.


EasyTREK SPA-380-4

Usually, NIVELCO's level transmitter is installed in a protective tube, measuring the level of the incoming sewage directly on the flow-in side of the grinder. The output signal provided by the EasyTREK SPA-380-4 is connected to the grinder's own control cabinet so the operator can not only check if the grinder works properly but at the same time receives real-time data on the wastewater level and possible backflows.

One clear sign of the success of the above described solution on the market is that in the past two years WAPPrito® sewage grinders combined with EasyTREK level transmitters were installed in several operating areas of the water industry (Budapest Sewage Works Pte Ltd., Bácsvíz Ltd., Sopron Waterworks Ltd.). All installed devices work reliably and ensure measurable benefits for the operator companies. Based on the feedbacks it can be clearly stated that in every operating area where WAPPrito® instruments protect the sewage network against harmful extraneous materials the energy consumption of the pumps has decreased whereas their maintenance interval has increased.

Based on the positive feedbacks from the customer's side NIVELCO level transmitters have been again proven to be widely useable and reliable instruments that can add significant value to the development, market launch and application of a new product as well.


# THE NIVELCO RACING TEAM FINISHED ONE OF THEIR MOST SUCCESSFUL SEASONS

**PÉTER SZŐLLŐS**
Vice President

**NIVELCO Co.**
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Summary of the last season and interviews with the Szőllős siblings

It was a difficult, but successful season for the Szőllős siblings. World Championships, Junior World Championships, Universiade, Olympic Hopes Race, and numerous international competitions, just to mention the most important ones.

This had been the first season, where the whole team could concentrate on their self-planned preparation and later on their self-chosen races. Sadly, the NIVELCO racers had to meet the requirements of petty superiors in the past seasons, who weren't informed sufficiently about ski racing. Today we can see perfectly how many resources were spent unnecessary, because of the continuous fights with these people. Looking back on this season we can say that the results prove our decisions right.

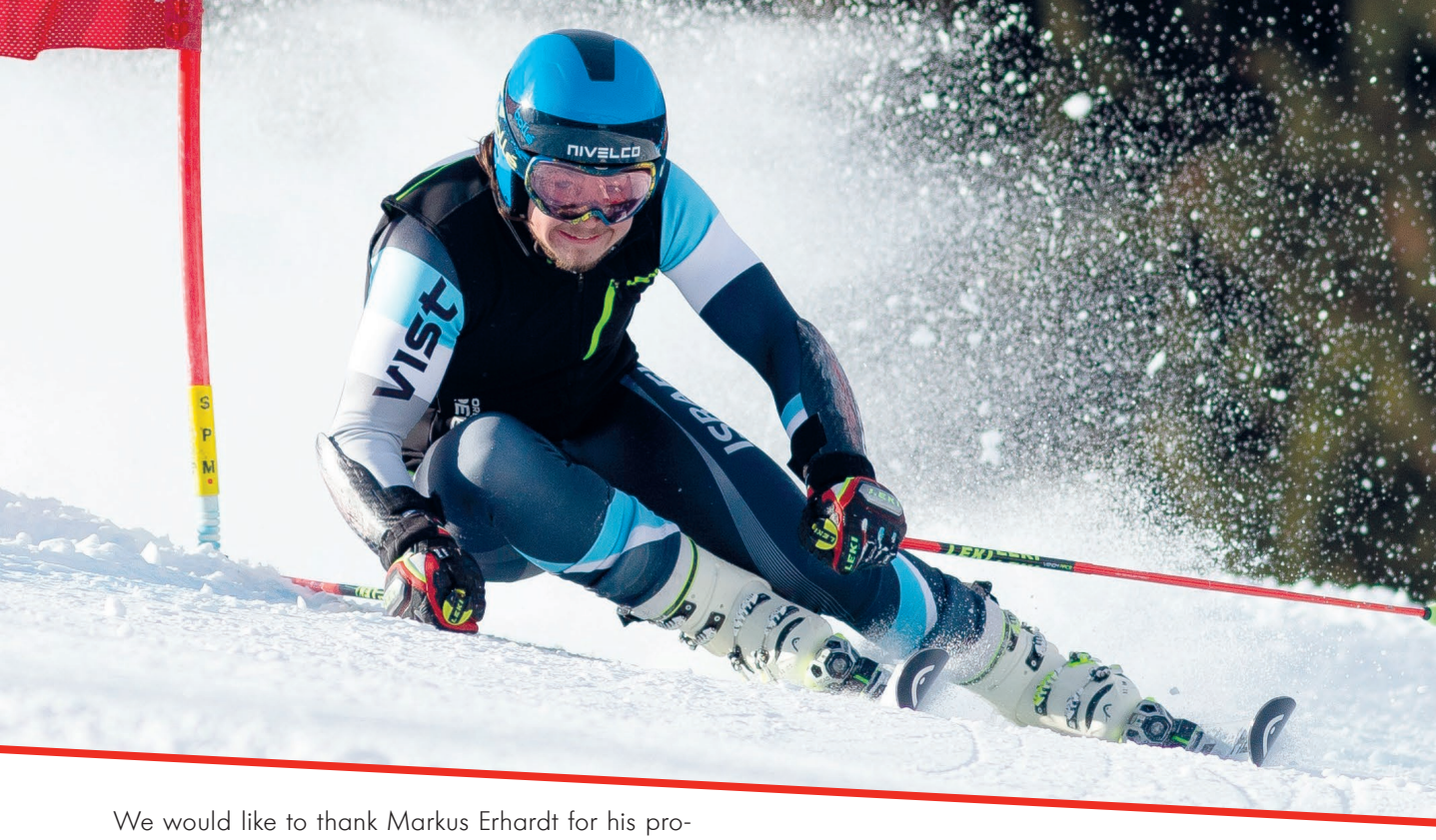

This season was primary about contesting at the biggest international races.

*Noa Szőllős (16)* triumphed at the most prestigious international races in Eastern and Western Europe as well as in North America in her last children year.

*Barnabas Szőllős (20)* chose the most difficult path, containing Downhill and Super-G Europacup races and the Junior World Championships in Italy.

*Benjamin Szőllős (22)* competed at the World Championships in Sweden and at the Universiade in Siberia.

NIVELCO supported the Paralympic Team and numerous young talented athletes in their preparation again this year and is hoping to be able to offer financial and professional help for those who trusted us, also in the future.




We would like to thank Markus Erhardt for his professional work as a coach, which he participated in his free time beside his studies at the university in the past five years.

Simultaneously it is our pleasure to introduce our new head coach Michael Stocker. He is a multiple grass ski world champion who has been primary helping Noa's preparation and racing since April, having in mind that it's very important to coordinate the three athletes together, so they can prepare and train with each other. Noa Szőllős will become also a FIS racer with the upcoming season, this fact creates further opportunities for the siblings to race together again while making each other stronger.


We would like to thank the Olympic Committee of Israel especially, for helping us make our dreams come true.

## INTERVIEW WITH THE SZŐLLŐS SIBLINGS

**– How was your preparation for your first whole season in Israeli colors?**

*Noa Szőllős:* – It's nice to have a sense of freedom when you can choose freely when and how you want to train and prepare yourself for the season especially if you're getting ready for your last year in U16 which was very important to me.

*Barnabás Szőllős:* – Last year the change of nationality used up a lot of time and energy. This year I did not have this issue that's why I was able to prepare more freely and with a plan for the season.

*Benjamin Szőllős:* – The Ski Federation of Israel has a better system for evaluating results. This provided me with more freedom preparing for the events which are important to me.

**– Which were the important races you highlighted in your preparation?**

*Noa Szőllős:* – All of them were very important to me and I tried to get ready as well as I could and most of the time it worked but the races that got a little

bit more attention would probably have to be Pokal Loka (Slovenia) and Alpecimbra (Italy), the two hardest races of the season and also the two races that I'm most proud of.

*Barnabás Szőllős:* – In 2018 at the JWCH (Junior World Championships) in Davos, I achieved outstanding results in the speed disciplines (DH, SG) but I felt like I could be even better next year.
This season it was all about getting experience on the big races and not just collecting FIS points. That's how I got to one of the most difficult Downhill races in the world, the so-called Streif in Kitzbüchel.

*Benjamin Szőllős:* – The SES cup in December was the first important event for me this season because the races on the beginning of the season give feedback about the summer work. Further important races which needed extra preparation were the world championship in Sweden and the Winter Universiade in Siberia.

**– Who helped in your preparation and on your races?**

*Noa Szőllős:* – I have to thank my school (TZW), my coaches Lukas Tippelreither and the newest member of the NIVELCO Ski Team, Michael Stocker and my teammates for pushing me to my limits during the trainings and also my parents and NIVELCO, because none of this would be possible without them.

*Barnabás Szőllős:* – I had a lot of fitness preparation with the school team based on the program of our coach Michael Stocker. At the European Cup races, I worked together with the ÖSV (Österreichishes Skiverband – Austrian Ski Federation) and other big teams. My coach, Markus Erhardt, helped me organize this, and at the end of the season, after five years of work together, we decided to split our way.

*Benjamin Szőllős:* – Until the mentioned SES cup I was training together with the Georgian national team, which was led by the Austrian coach Walter Hubmann. I had been in the right place at the right time, thus I was able to join an international ski team, the Kronplatz Racing Center. I finished the season with the help of this team and I'm already planning the next one with them.

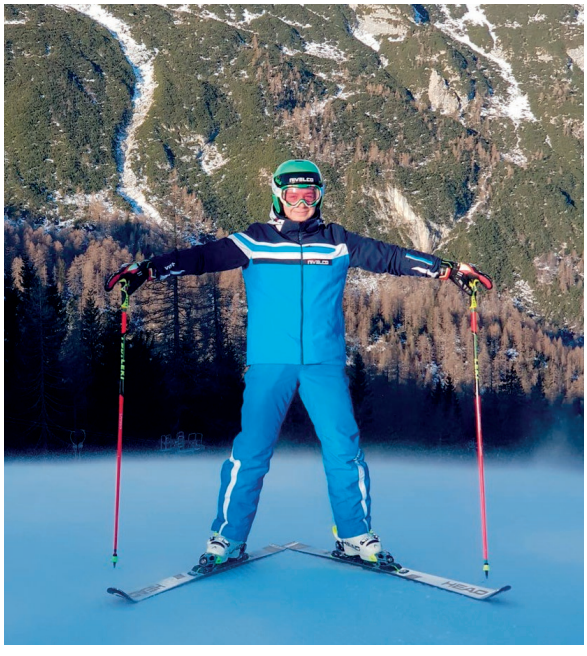

**– Which of your results are you the most proud of your last season?**

*Noa Szőllős:* – As I said before, Pokal Loka was a pleasant surprise this year for me reaching the 3rd place in GS and 6th in Slalom, and Alpecimbra where


I achieved good results despite my mistakes (SL 5th, GS 4th). All in all, I'm proud of what I accomplished this year.

*Barnabás Szőllős:* – JWCH (Junior World Championship) 2019 10th place at the downhill training and 17th place at the race the next day. Unfortunately, in the JWCH super giant slalom race, I hooked up a gate and ran into the protective net. My skis were broken, my legs and my back tightened, so I couldn't take the race the next day. I have done a lot for this world championship, I wanted to get a good result in these numbers, but there will be a chance to prove it!

*Benjamin Szőllős:* – My 18th place in Slalom at the Universiade. This result makes me look forward to the next Universiade in 2 years.



**– What further success have you achieved?**

*Noa Szőllős:* – I achieved 1st places on the following races: Ski Interkriterium Vratna Slovakia SL, Trofeu Borrufa Andorra SL, and GS, Zagreb Trophy Croatia, Barcelonette Young Citizen Cup France SG, AC, GS, and SL.
Furthermore, I had quite a few podium places, for example, two 2nd places and a 3rd place on the Whistler Cup Canada race.
In addition, I was able to stand 7 times on the top of the podium on Austrian provincial races.

*Barnabás Szőllős:* – First place Lackenhof (Austria) FIS giant slalom race, second place Passo San Pellegrino (Italy) FIS giant slalom race and third place in Kouty (Czech Republic) FIS slalom race.
Bischofswiesen Götschen (Germany) in AC combination 4th place, super-giant slalom 2 times 5th place. In this competition series, I was able to improve my FIS points in both races even in the very strong field.

*Benjamin Szőllős:* – I can look back proudly on the SES cup where I won the Slalom race again, but this year I also achieved a podium place in the Giant Slalom. This year's world championships had been the first where I could start at a final because of my result at the qualification race and not just because of my country of origin.


**– How do you rate your last season?**

*Noa Szőllős:* – Of course, there were a lot of ups and downs but in the end, the most important thing is that I had a lot of fun and reached most of my goals for this season.

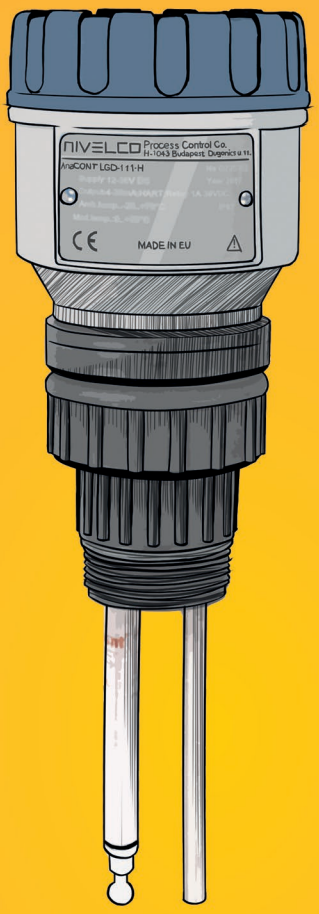
*Barnabás Szőllős:* – Despite the fact that this season was not about collecting FIS points and most of the time I started in European Cup races, I still managed to gain a better position in some disciplines on the world ranking list.
*Benjamin Szőllős:* – This season was one of my most successful seasons. I finished this season with a kind of skiing, which gives me power for an intensive summer preparation for the upcoming season. I also gained Olympic A qualification level in Slalom and Alpine Combination.

**– What are your goals for the next season?**

*Noa Szőllős:* – My next goal is to get enough FIS points until December so that I'll be able to compete in the 2020 Youth Olympic Games in Lausanne and I'm also really excited to visit new places, meet new people and learn what it truly means to be a ski racer.

*Barnabás Szőllős:* – Next season I am going to train again with my siblings so we can train more efficiently and push each other.

*Benjamin Szőllős:* – I still want to focus on technical disciplines and improve my place on the world ranking, to get a better starting position at the next world championship and Universiade.

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