

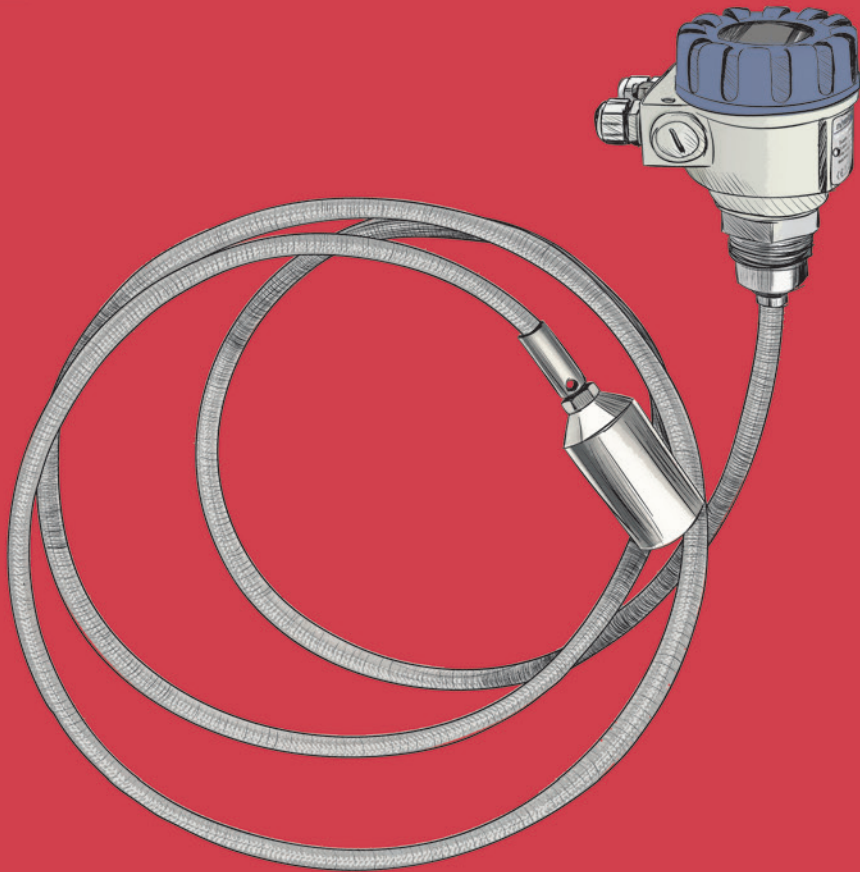
MAGAZINE

NIVELCO

SPRING-SUMMER // 2020/1



TEMPERATURE
MEASUREMENT



NIVELCO THERMOPOINT TM

Multipoint temperature transmitters

Quality & innovation since 1939

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TAMÁS SZOLLOS
CEO

NIVELCO Co.

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Dear our Partner,

I welcome you on the occasion of the release of the first issue of the NIVELCO Magazine's 2020 season. First of all, I am pleased to announce that our company closed 2019 with unbroken success, observing it both from a business and a professional view. Assessing the result of the past year from various aspects, we could even manage to improve the previous years' positive trends in some areas. Our effectiveness could be measured not only by sales figures – which we share with you in a dedicated article –, but also by the expansion of the Group. As living proof of this statement, we take the opportunity to introduce our brand new, Greek subsidiary and proudly present also an intercontinental project of NIVELCO, which gives us opportunity to indirectly supply one of the greatest drinking-water providers of the South-American continent. The introduction of our measuring instruments in real and various application-environment is given a prominent role in the present issue. We gave priority to this, keeping in mind that our business policy is not only expansive in areal sense, but continuously striving also to expand the application areas where there is a NIVELCO instrumentation solution. Thus, we are lucky enough to share news of a domestic pilot project, aims at solving the complicated level-control task of silos with irregular sizes. From our solutions that serve the globally-prioritized environmental sector, our American subsidiary introduces a tailor-made flow-measuring solution, while a local development which gives NIVOCAP the protagonist's role in the wastewater-treatment of Kapuvar, will also be discussed. Besides these, you might also read about a PilotREK level measurement of an irregular medium in one of the major factories of Transylvania. And last but not least on the application side, our Serbian partner is pleased to announce two of his projects to satisfy the remote level-control demand of a local drinking-water provider and a fairly complicated automation requirement of the supply of an eco-fuel power plant. We give examples also to our ongoing technical innovation activities through detailed descriptions of MI-500, a brand new integrated member of our NIVOTRACK family; and the new series of the NIPRESS pressure transmitters, which family will have been launched 5 years ago, this year. Besides the strictly professional sections, we are glad to introduce two of our dearest colleagues, who have been with us for a very long time, as well as two members of the NIVELCO supported racing team, achieved astonishing racing results at international level. Fortunately, we have another anniversary to announce for 2020. A rather irregular one, since the symbolic figure of our firm, LevelBOY – who is also the most powerful tool of our informal communication – will celebrate the calling to a life of the comics series also this year. Of course, this occasion gives us precedent to present a new sequel of the series in the new mag, which I am wishing you a pleasant time reading herewith!

NIVELCO Magazine 2020/1

Published by: NIVELCO Process Control Co.

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Evaluation of the financial year 2019



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The sales revenue growth of the past years continued in 2019, and though the pace of this growth – especially closing to the end of the year – slightly slowed, we could manage to exceed both in HUF and in EURO the historical result of the year 2018. Thus the total group sales revenue was over EUR 13 millions. Our domestic sales improved over the general average of the company (with 7% in EURO and 9% in HUF), increasing the domestic share to 21% of the total revenue. Our export markets still dominated with the result of our subsidiaries remained unchanged to the previous year, makes 34% of the total. The remaining 45% of our revenue was made of export sales through distributors to 76 countries in 2019. Altogether, through our subsidiary and distributor networks, **NIVELCO** products sold in 84 countries all around the world.

The most important part of our sales continued to be the sale of self-manufactured products, proportionally over 80% of the total sales, which number has not been significantly changed over the previous years. The product group of ultrasonic level transmitters is still with utmost importance in **NIVELCO**'s sales strategy, representing 46% of the revenue of

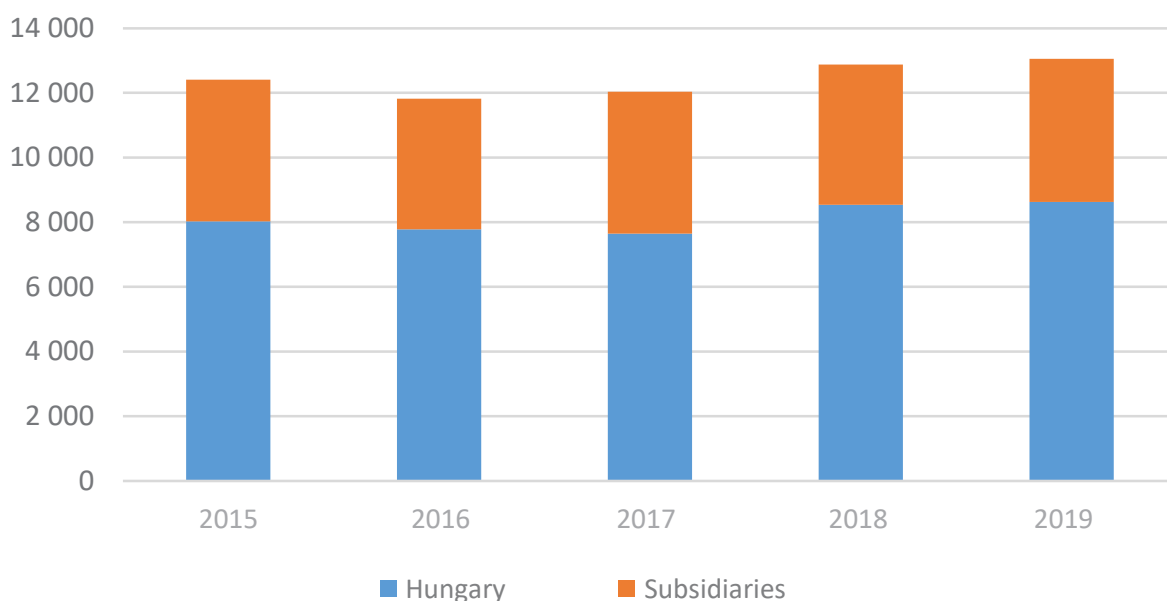
the self-manufactured products. As a result of continuous technological developments and intensive marketing activities, **NIVELCO** Group remained one of the top manufacturers of level transmitter devices both in Hungary and worldwide.

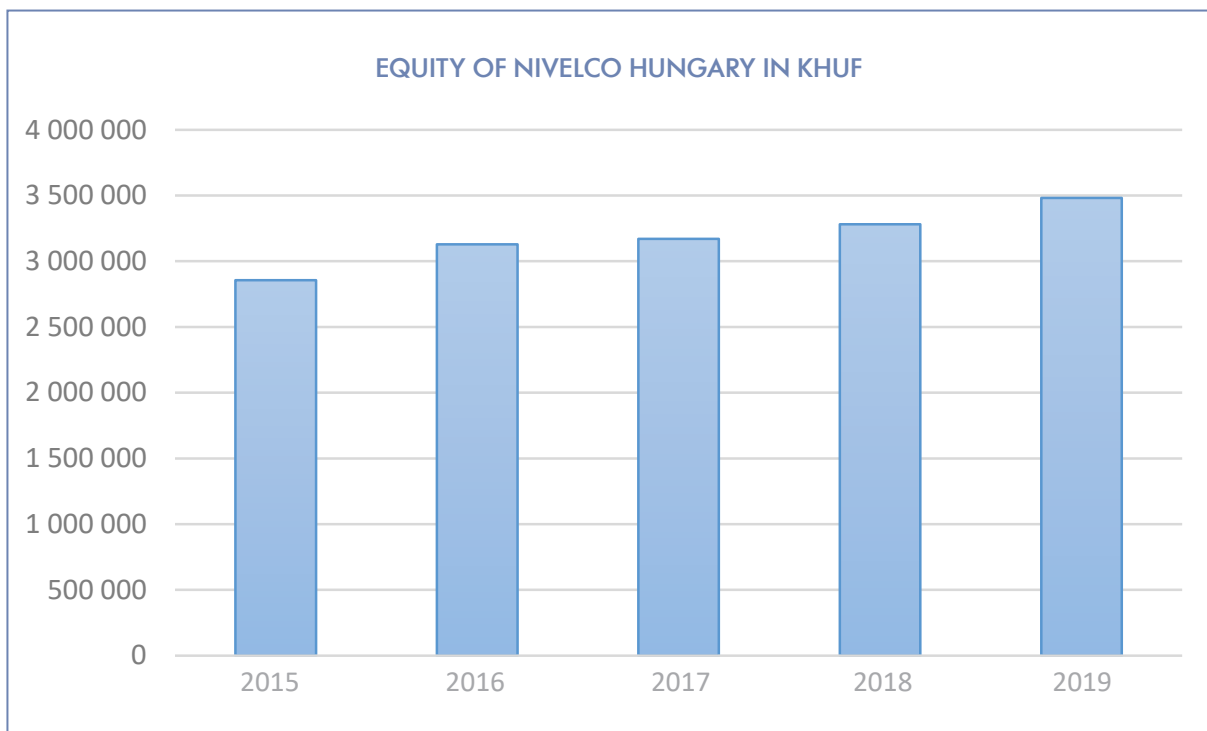
The sale of commercial goods and property rentals of some sectors of the **NIVELCO** office building made up the remaining 20% of our Group's total revenue. In these areas, we could also manage to keep the result at the level of the previous years. The utilization of the office building was nearly 100% throughout the year 2019. This is mainly due to long-term contracts with our major tenants valid since years, which makes the real estate management plans of the company predictable and plannable to ensure our targets remain achieved even at this area.

The profitability of our company was around the average in this sector, indicated by the aggregate EBITDA value, which remained over 10% of the total revenue.

In 2019, besides improving the production technology, we have reinforced our research and development department as well, which investments meant a total of 1 million EUR.

NIVELCO GROUP SALES REVENUE IN K€





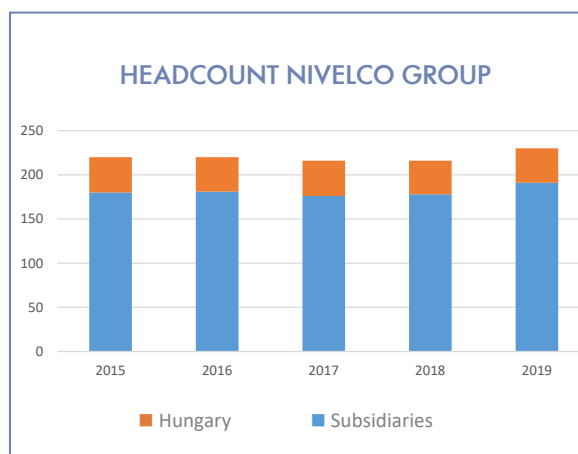
However, competitive operation requires competitive salaries as well. Bearing this rule in mind, we kept on improving our salaries in accordance with the ever-changing market environment.

Similarly to the practice of the previous years, we did not requisite any new external fundings to finance the developments and investments decided for the past year or to finance the operation. The material base of these expenditures covered by the income generated by the Group.

The profitable operation of the Group, we have been maintaining for years, has also positive effect on our capital position, and the proportion of equity was 70% on the liability side of the balance sheet.

On the manpower side, we can report the total headcount of NIVELCO Group increased by 6% compared to the previous year, but this result is still underneath the pace of growth of our annual revenue, and considering a 5-year timeframe, represents 4.5%.

The total number of employees of the Group was 230 at the end of 2019 with no plans for 2020 to further increase this number significantly.



As a summary, we consider 2019 was a successful year for the NIVELCO Group from all aspects. Looking ahead, we trust that the continuous development of our broad product-structure, our conservative business policy and stable financial background create a secure foundation to face future challenges; and that we will be able to carry on our successful operation in the forthcoming years.

The younger brother of NIVOTRACK



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Head of R&D

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We are proudly presenting hereby the latest member of our magnetostrictive level transmitter family, the integrated magnetostrictive level transmitter. Common attributes of the all-new **NIVOTRACK MI-500** series' different instruments, are the probe tube and the small-sized tubular housing without display, which are permanently connected by welding. The housing, which is much smaller than the one of other compact transmitters, hides cost-effective electronics. As a result of these savings, the device is in a lower price category. For this reason, we recommend this model to use for smaller tanks and simpler systems, where the price of the unit is more important consideration, than the expected accuracy. For instance, this could be ideal choice for the majority of applications involve **NIVOFLIP** liquid level indicator or similar, by-pass systems. At the moment, MI-500 is exclusively available in a rigid-tube variant with the highest length of 3.5 m (11.48 ft), can be combined however with all types of **NIVOTRACK** metallic floats, designed for mediums with different density.

The model will become available – besides the regular sensor design – in a mini version also, which will be equipped with a thinner sensing tube and with a 1" float. The later is recommended for installing it with 1"-thread, while the basic version is by default designed for a 2"-thread connection (BSP/NPT). This design ensures the float can be passed through the installation cross-section. To support different connecting variations, the model would also be available in the future with TriClamp connections of various sizes and with a design specifically optimized for clamp fastening to **NIVOFLIP**. To support a more widespread application, versions with threaded technical connection would be available in two different designs. At the first one, the threaded part will be located just underneath the probe socket, thus reducing the vertical protrusion of the instrument from the place of the installation. At the other – low

threaded – design, the process connection will be located under the sensor's electronics, enabling eg. the maximal utilization of measuring range within a container.

The basic version is equipped with a Hirschman connector, to meet the requirement of the IP65 protection standard. However the product family will be further improved still this year to meet even the IP68 protection standard for integrated devices, by releasing built-in cable and DIN M12 connector equipped versions as well.

The MI-500 features a two-wire power output (4 – 20 mA), digital communication (HART®), and

The integrated MI-500 with tubular housing will be available with the following technical connecting options later this year:

Probe type / Process connection	Order code
1" BSP	A
1" BSP lower connection	B
2" BSP	C
2" BSP lower connection	F
1" NPT	D
1" NPT lower connection	E
2" NPT	G
2" NPT lower connection	H
1½" TriClamp	J
2" TriClamp	M
2½" TriClamp	O
3" TriClamp	P
4" TriClamp	R
Without float, for NIVOFLIP (max. 3.5 m [11.48 ft])	L*
Without process connection for sliding sleeve	U

**Probe length = center to center of NIVOFLIP + 300 mm or 400 mm as per float type and pressure rating*

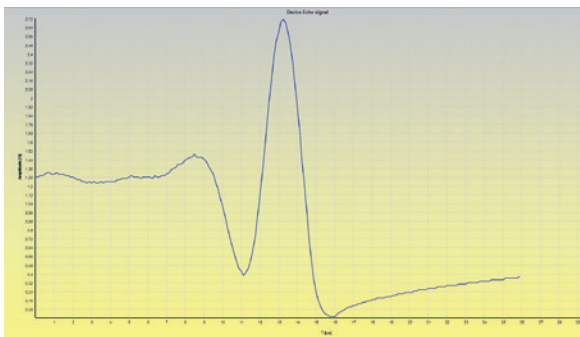
optionally with level or distance measuring functions as well. Due to the integrated design, the set up of the device can be executed through a HART® interface. Amongst the parameters of the device – besides the measuring function –, the analogue power transmission, the level offset, and (for digital transmitting) the unit selection (m, cm, mm, ft, inch) can be defined. Naturally, the active measuring range is possible to be narrowed, as the customer wishes. The device can be easily set up to the expected functionality using a PC and a HART® modem or a

The following chart compares the main technical data of the new (integrated one), with the compact, magnetostrictive level transmitters.

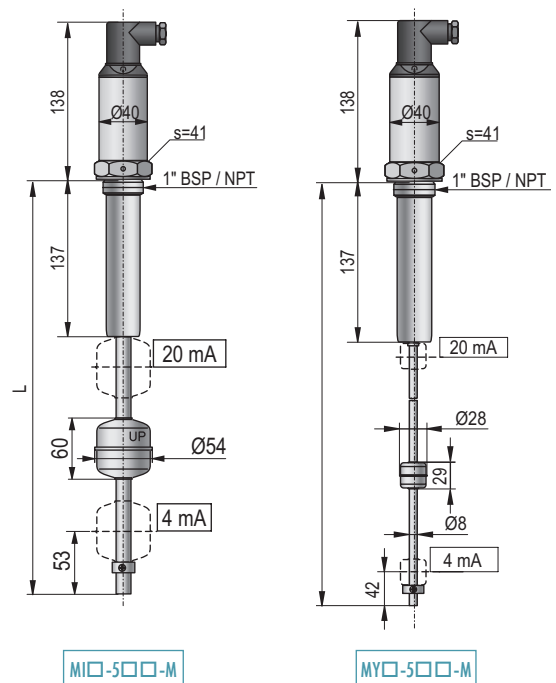
Type	MI□-5□□	MY□-5□□	MT-500 (similar, rigid tube versions)
Transmitted process values	Level, distance		Level, distance, volume
Nominal length (L)	0.1 – 3.5 m (0.32 – 11.48 feet)	0.1 – 1.5 m (0.32 – 4.92 feet)	0.5 – 4.5 m (MM□, MC□ max. 1.5 m) [1.64 – 14.76 ft (MM□, MC□ max. 4.92 ft)]
Resolution	1 mm (0.04 inch)		1 mm (0.04 inch); 0.1 mm (0.004 inch)
Nonlinearity (displayed and transmitted)	±2 mm (0.08 inch) or ±0.02% F.S.		±2 mm or ±0.02% F.S. whichever is greater; ±1 mm or ±0.01% F.S. whichever is greater; Under reference conditions
Temperature error	0.04 mm / 10 °C (-25 °C ... +50 °C) [0.0015 in / 50 °F (-13 °F ... +122 °F)]		0.04 mm / 10 °C (from -25 °C ... +50 °C)
Current output accuracy	33 µA		10 µA
Power supply	12.5 – 36 V DC (Polarity protected but not independent)		12.5 – 36 V DC
Electrical connection	Hirschmann connection		M20x1.5 cable gland for cable: Ø7 – 13 mm, wire cross section: max. 1.5 mm ²
Ingress protection	IP65		IP67
Hysteresis (under reference conditions)	< ±1 mm (< ±0.04 inch)		< ±1 mm; ±0.25 mm (< ±0.04 inch; ±0.098 inch)
Measurement range (possible reduction)*	Min. range: 32 mm (1.26 inch)		Min. range: 200 mm (7.87 inch)

*The detailed accuracy data is only valid under the default factory settings!

MultiCONT process controller device. This connection also enables the query of the measured echo signals, which could be used for diagnostics. In case of a HART® transmission, the resolution of the instrument is 1 mm with a declared accuracy of



±2 mm (0.08 inch). The ambient temperature range of the device is from -40 °C to +70 °C (-40 °F to +158 °F), with the highest permissible temperature of the medium is +90 °C (+194 °F).



The NIPRESS DK series pressure switches of the NIVELCO range



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About the NIPRESS family



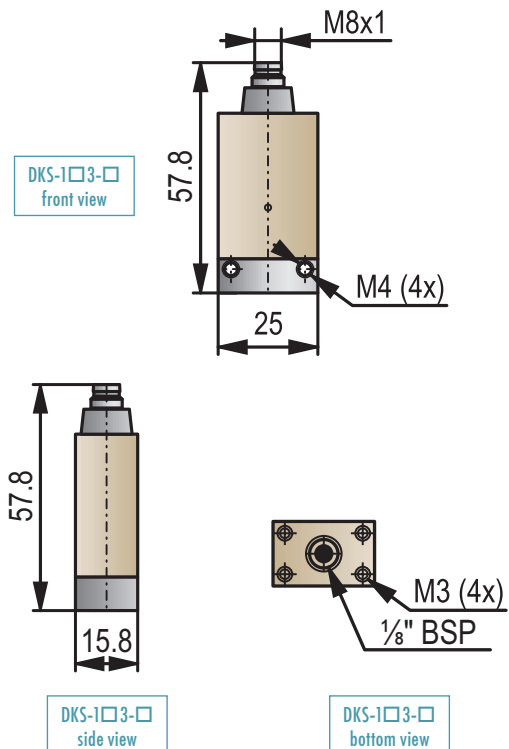
Pressure sensing, supervision and regulation of pressures of liquids and gases, as well as the processing of the measured values alongside their forwarding to the appropriate application, are all prioritized areas in the world of industrial measurement technology. NIVELCO is capable of covering the needs arise from various industries and application areas with the broad technical range of the NIPRESS family.

Amongst the members of this product family, one may find pressure transmitters, differential pressure transmitters and pressure switches. Please find out more about them in our Product Catalogue.

NIPRESS pressure switches can be used either in hydraulic or pneumatic systems for pressure monitoring and regulation, via switching outputs. Due to their straightforward handling and the variety of offered software features (switching points and hysteresis freely configurable, delay function, storing min-/max-value, scalable display and analogue output signal, etc.) these pressure switches with built-in display are equally suitable for general plant, machine construction and processing industry applications." Our regular readers already got used to it, that we are striving to introduce a new or an existing member of our range in each issue of our mag. The purpose of the article-series we are going to start now is the detailed introduction of our different pressure measuring instrument line-up. Let's begin with the simplest pressure switches.

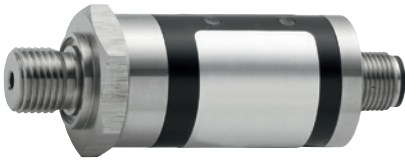
NIPRESS DK-100

The youngest brother of the range is the NIPRESS DK-100 device. The area the development aimed at was the field pneumatic and vacuum applications. The device is a pressure switch in aluminum housing, equipped with an internal silicon sensor, which is primarily subject to measure compressed air or non-aggressive gases. This is explained by the relatively narrow measuring range of 0 – 10 bar (0 – 145 psi). The accuracy is 1%, which perfectly meets the requirements of the proposed application. Depending on the chosen option the ordered with, the device may feature single or double PNP electronic outlet(s). If ordered with a single outlet, that could be an analogue one as well (1 – 5 V).

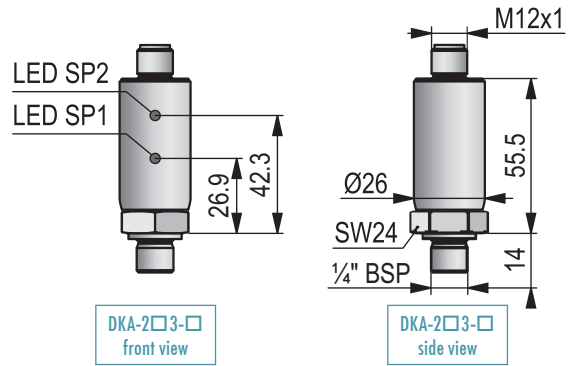


NIPRESS DK-200

Another main representative of the “price to value” category is the NIPRESS DK-200 unit. It has been developed for the hydraulic and machinery industry applications and features an internal ceramic sensor. The accuracy of the pressure switch, featuring stainless-steel housing and sealed with FKM (Viton®) or EPDM is also 1%. The applicable measuring range is: 0 – 400 bar (0 – 5801 psi), which enables a broad selection of applications. The device is also available with absolute pressure measuring method, in an oil and grease-free version or even for oxygen applications.



Both devices delivered without a display, offering thus a cost-effective solution for a number of different applications, detailed above. The momentary statuses of the outputs of the switches indicated by a multicolor LED. The compact design of the devices allows two ways to set parameters like switching points, hysteresis, etc. One option is the factory preset upon parameters declared with the order, or on-site, using various programming units.



An option for the latter choice is the P6 programming unit, which is to be mounted on the device and allows to set up values using keys. The provided parameters visualized through a 4-digit LED display.

Another possible method to alter the parameter settings requires a PC or a Laptop. In this case, the device is to be connected to the PC via a CIS USB modem, where desired parameters can be set up with the help of the “P-set” software either on-site or prior to installation. The visualization greatly helps the setup process.

These devices are especially popular for their cost-efficiency at applications where a high number of instrumentation required.

NIPRESS PRESSURE SENSORS



PRESSURE SWITCHES

PRESSURE TRANSMITTERS

DIFFERENTIAL PRESSURE TRANSMITTERS



Market building strivings of NIVELCO



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There are two main directions specified in NIVELCO's market building strategies in order to enhance its foreign sales:

- 1., Expansion of the distribution network
- 2., Establishing subsidiaries

The very first subsidiary of the company was found already in 1994, in Poland, which provided experiences we used in establishing various NIVELCO firms abroad, as follows:

- In the Czech Republik – 2004
- In Romania and Russia – 2005
- In India – 2007
- In the United States – 2008
- In Croatia – 2012

In course of the the past years it has been proven to us several times, that the key of the most effective market building as well as to the possible most flexible way to satisfy customer demands in the hands of colleagues with deep market conditions insights, local relationships, and the possession of knowledge of specialized corporate cultures of the given area.

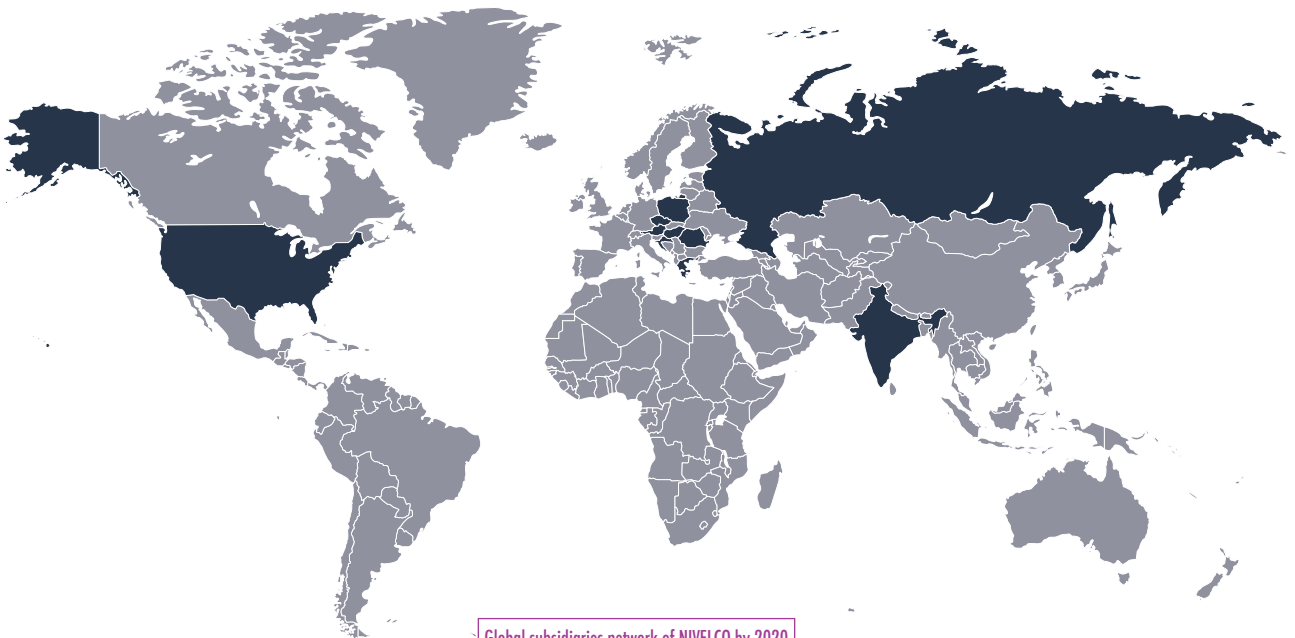
Considering all the above, NIVELCO Process Control Company is continuously seeking for new business opportunities and markets where further expansion or potential growth appears to be available.

The market presence of the subsidiaries means various advantages to the different players of the local economies as customers, designers, system integrators and distributors.

As examples among others:

- Organizes and implements the entire cargo traffic
- Builds and maintains sufficient stock level, upon feedbacks and declared demands of the different players of the particular market
- Provides services and performs installations
- Manages all the activities required in case of a repair demand
- Provides the opportunity of ongoing professional consultations
- Provides pieces of training as per local partners' demands

Prepares various type of NIVELCO marketing material, as brochures, instrument handbooks, etc.



Global subsidiaries network of NIVELCO by 2020

NIVELCO supports its subsidiaries with the utmost responsibility and dedication. The ownership of the company with stable financial background provides material resources to ensure economic stability and steady growth of the subsidiaries.

None proves more obviously the rationality and well groundedness of the decision to establish the subsidiaries, but the fact, that almost all the subsidiaries are constantly amongst the top 10 resellers of the mother firm.

WE HAVE ESTABLISHED A NEW SUBSIDIARY

We are pleased to announce, that NIVELCO established a new subsidiary in Greece.



The NIVELCO GREECE LLC will begin its operation in March 2020, with its headquarters based in Athens. As a result of a lengthy and thorough selection process, we succeeded in finding the most appropriate person, *Mr. Dimitris Bechtessidis* appointed as commercial director of the company, would be responsible for building the Greek market.



Dimitris will be joining us with a professional background of more than 20 years of industrial sales, having gathered massive experiences in course of his career so far on various fields, like eg. chemical and paper industries.

He will be primarily charged with visiting our existing distributors, pursuing new customers, deciding the corporate strategy and setting up the local sales team.

Dimitris had already been joined NIVELCO from the beginning of the year given the opportunity during the past, two months to familiarize himself with the complete product range. In course of a several weeks-long training session, held in Hungary, he was given overall picture of the operation of the group and given all these pieces of knowledge, we consider him entirely prepared for his future challenges.

We hope, that by establishing a new subsidiary, we would be able to make the cooperation with our existing distributors, more effective and close, besides a new opportunity is opening for us to make NIVELCO instruments familiar with a number of possible, future customers of us, all around Greece.

25 Years of NIVELCO-POLAND

The story of NIVELCO in Poland



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Human memory is generally volatile; however some important moments in life still could be recalled easily even after many years. In fact, the NIVELCO story began back in 1991 when my wife, Irena and I were working for an old “communist” conglomerate METALCHEM, a manufacturer of level and flow sensors. Due to the loss of the enormous former Soviet Union market, massively impacted their production they had to fill this gap and find new, innovative products for the Polish market. For me, the first time to get in touch with NIVELCO, happened in a cold and snowy day in November, when I was waiting impatiently for METALCHEM’s management. They visited NIVELCO at Budapest and they were expected to conclude cooperation contract and bring some samples before the POL-EKO 1991 trade fair.



Finally, we’ve got them – at first, NIVOSONAR U-140 and UE-100 units (the predecessors of the well-known EchoTREK ultrasonic compact level transmitter) – just one night before the exhibition started, and still we were able to familiarize ourselves with the modern technology of that time. Fairs, – unlike nowadays – were organized with enormous success with more than 300 registered visitors, hungry for knowledge about modern instrumentations, especially about the

ultrasonic level transmitters. Three years of successful cooperation, METALCHEM bankrupted, and the idea of establishing the first foreign operations with NIVELCO arisen. Then, NIVELCO-POLAND was established as a joint-venture company on the 1st of April, 1995; which was followed by 25 successful years in the history of NIVELCO in Poland.

Since the very beginning, the team of three employees of NIVELCO-POLAND was very committed and motivated to leave a mark of our presence in the rapidly changing industry of Poland.

For the whole team, the first successful applications like the one in a melaphire quarry where we delivered and installed ultrasonic level metering systems on silos as well as a control system to optimize operations of melaphire crushers were very important. Melaphire is a quite common material in Poland, a little bit reddish stones with several mm diameter.

It is primarily used as foundation under railroads and as a layer in asphalt roads. We can say now with satisfaction that the delivered system served for many years at the customer to run his production efficiently. An important part of our job was to popularize the NIVELCO name on our market, and in order to solve this task properly, we participated several fairs, seminars and similar events. We also organized trainings for our customers and partners, either at home, using our workshop or on-site, with real industrial installations: tanks, silos, hoppers etc.

The hard and conscientious work of our team led to better and better results, which finally resulted in we became one of the best international distributors of NIVELCO. We are very proud that we could win six times in this open and recurring competition and today we can proudly show our collection of diplomas for being the best distributor partners to our partners. Our method was always to build long-lasting relationships with our customers and partners, bearing in mind our first slogan – “You always know how much do you have with NIVELCO” and the second one “Every customer, satisfied customer”. This kind of attitude is necessary when facing the fast changes of an industry. An industry which also requires the highest quality products at reasonable prices to provide high-quality assurance and efficiency in industrial production processes. It was a pleasant and satisfying feeling to earn the trust of our customers



NIVELCO International Sales Meeting 2019, Budapest

and hear “Your transmitters work better than...” or “Your instruments are the only ones to survive heavy Spring storms and atmospheric discharge”.

During the following years, our team grew to ten highly qualified employees, to serve our customers with solving a wide range of problems related to the proper selection, handing over and installation of level measuring instruments. In course of those years the **NIVELCO-POLAND** company has grown steadily, with reaching nice results.

During the 25 years-long operation, our team gathered tremendous experience through the selection, and installation of several thousands of different types of level transmitters, with the majority of them represented state of the art technologies at that time, like ultrasonic, microwave or pulse radar technologies.

In the field, our specialists encountered the most demanding flow and level measurement applications of various branches of the industry, working with a variety of different substances under extreme conditions. Thanks to **NIVELCO-POLAND** became a highly appreciated partner of most of the important industrial plants in Poland, and that we were asked to help with problematic applications, which were all abandoned by our competitors. Our technical seminars, road-side demo bus exhibitions and fair booths always attracted the attention of technical specialists.

Of course, the crisis of 2008/09 strongly impacted our performance, but every crisis is a challenge and every challenge is both threat and opportunity as there are demands for more efficient and cheaper solutions.

This period gave chance also for the specialists of the **NIVELCO-POLAND** team to explore new

fields of applications, to leave well-known paths and existing partners and customers and look for new opportunities. In some cases, we could inspire even our appreciated parent company and we felt satisfaction when ideas to satisfy particular customer needs also appeared in standard products. I believe, that we could make the most out of these opportunities and that – after the recovery of the national economy – we would be able to recover also, reaching again the sales volume we used to have.

Year 2020, the year of our 25th anniversary started hard. First of all, on the 11th of March, we’ve lost our highly appreciated colleague, *Andrzej*, who passed away being with us since the beginnings. Then the year followed with the coronavirus pandemic outbreak, which disabled us to celebrate our anniversary properly. We also expect severe economic consequences of the coming crises, but we continue our services to our customers, hoping for every storm has to come to an end once. After the recovery, industry will be looking for reliable instrumentation and reliable people again, who can help applying those instruments properly. After the sun is shining brightly again, we will be able to forget this dark period and will be able again to celebrate our 25 years of operation solemnly.

Encouraged by these prospects, with thanks for the continuous support of the **NIVELCO** headquarters and to our **NIVELCO-POLAND** “dream team” we are able to look ahead with optimism to serve our customers with an innovative and continuously improving **NIVELCO** product range, as well as with other interesting products like ISOIL ISOMAG flowmeters and several other ones, representing cutting-edge industrial technology.

NIVELCO-Granny in and outside of our walls – interview with Aranka Majik



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– How and when did you come into contact with NIVELCO and how did you join the team?

– In the beginning, I started and worked for three years as an outworker. Finally, I joined as a regular employee of the company for NIVELCO's own invitation in 1989.



– Can you still remember your initial years with the company?

– I liked the familiar atmosphere and the good salary. The integration went very easily since I have already known a part of my colleagues.

– Could you describe your positions so far and your regular daily duties, please?

– My role at the company was colorful. I was completing a variety of different tasks from the manual installation of electronic components to the packaging of the ready-made product.

– What changes did you experience around you in course of more than three decades of employment?

– In course of the years, the development of the company resulted in the improvement of the number of the employee, which also made necessary to rethink and redesign the roles and procedures. This way, we got from infra to ultrasound, then to radar technologies.

– You have been working for NIVELCO for 31 years now. Could you specify the main factors that kept you here for such a long time?

– The attitude of the old colleagues and the seniors of the given times convinced me, that it is worth working for NIVELCO and I felt 30 years just passed on as a moment...

– Could you please tell us about your sweetest memories with us?

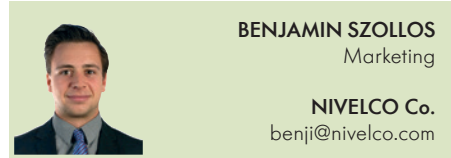
– There were memorable moments of course, mainly manifestations of collegial cohesion, trading fairs, getting familiar with new product features and their production.



– May I get to know a bit about your personal life and preferred spare time activities?

– As for my personal life, I am happy with my family improved with two male grandchildren. I am spending most of my weekends together with the children.

A quarter of a century of development and research – interview with Arpad Antal



BENJAMIN SZOLLOS
Marketing

NIVELCO Co.
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– When did you get in touch with NIVELCO and how did you eventually become one of our colleagues?

– I had been working at the MMG Automatika plant, when one of our colleagues drew my attention to a job advert NIVELCO posted, and I went to the interview. Fortunately, I could manage to get hired, *Tamas Szollos* and *Tamas Adler* choose me. The very first day of 1995 was my first ever working day at the company.



– Can you please tell us your memories of the beginnings?

– I joined the firm as part of the mechanical department, led by *Tamas Adler*. Initially, I tried to get familiar with devices, NIVELCO produced at that time. This was clear for me even then, that I would have to deal with a reasonably broad product range, offered a lot of different variations.

The entire documentative system was established in AutoCAD environment. In the beginning, I had to study therefore the applications we used, integrated in AutoCAD. Despite that they seemed pretty complicated to me, I still could manage to learn using them within a relatively short time.

– Would you tell us about your role and tasks at the company, please?

– My position is a mechanical designer, which job consists of – amongst several others – tasks that I play a part in designing the mechanical components of the devices we produce or being developed. Beyond this, I also prepare the documentation of the development, and upload these plans in our TIR database for the production. Still as part of my daily duties, I produce and assemble the prototypes in development phase. Further to all these, I am assigned with preparing the figures which are used in manuals; maintaining databases; preparing tender and other documents for submission to various institutes as well as leading the department under my responsibility...

– Could you describe the changes of your working conditions throughout your employment so far? (From where – to where)?

– Our equipment – alongside the offices – became more and more high-quality, as well as the IT background has been continuously updating to the level of the given time.

All in all, the company provided us better and better conditions as the years gone by.

– What made you remain one of our faithful employees on such a long run?

– When employee and employer are both satisfied with the other party on a long run, that implies a long time relationship. It was of my greatest pleasure to witness how the success and development of the company improved year by year.

– Which ones were the most memorable moments for you, working for the company?

– The opportunity when I appointed by our president as the leader of the mechanical department, succeeding *Tamas Adler*, following his retirement. That was an obvious evidence of a high level of confidence.

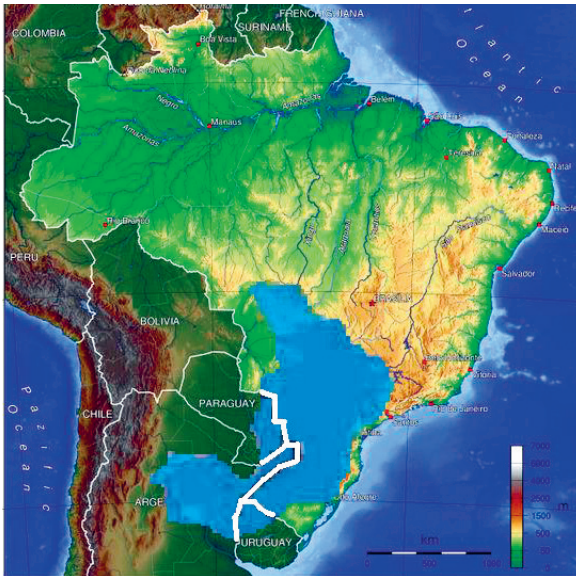
– Would you please tell us about yourself, what are your favourite leisure activities?

– From Spring to Autumn, I prefer than anything to work in the garden, as well as riding my bicycle or hiking. In wintertime, or when weather conditions are poor, reading provides some relaxation for me.

Supplying one of the most important freshwater providers of South-America through NIVETEC



ARY DALTON M. BRITO
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The Guarani Aquifer, located beneath the surface of Argentina, Brazil, Paraguay, and Uruguay, is the second largest known aquifer system in the world and is an important source of fresh water. Named after the Guarani people, it covers 1,200,000 km² (460,000 mi²), with a volume of about 40,000 km³ (9,600 mi³), a thickness of between 50 meters (160 ft) and 800 meters (2600 ft) and a maximum depth of about 1800 meters (5900 ft). It is estimated to contain about 37,000 km³ (8,900 mi³) of water, with a total recharge rate of about 166 km³/year from

precipitation. It is said that this vast underground reservoir could supply fresh drinking water to the world for 200 years.

However, at closer inspection, if the world population were to stay at an equilibrium of about 6.96 billion, not even taking into account that babies need less water than grown adults, this figure reaches 1,600 years, allowing about 9 liters (2.4 gal) per day per person. Due to an expected shortage of fresh water on a global scale, which environmentalists suggest will become critical in under 20 years, this important natural resource is rapidly becoming politicised, and its control becomes ever more controversial.

NIVELCO's distributor for this region is NIVETEC, a Brazilian corporation, which has been offering new and complete solutions of instrumentation and control since 1991. The most significant areas of their operation are measurement of level, flow, water and effluent quality, pressure, temperature and telemetry, supplying a variety of different segments of the Brazilian market. Their most important sectors are water and wastewater treatment, food and beverage, sugar and alcohol producers, industrial applications for steel, paper and cellulose production and mining. Besides a sales company, NIVETEC is also a service provider with a portfolio consists of flow measurement, specialized technical consultancy, maintenance and after-sales technical support with country-wide operation.



The NIVETEC family

They also offer complete lines of instruments for various processes such as measuring liquid and solid levels and flows of water, effluents and aqueous solutions. Further to these, they are also dealing with process analyzation for different variables, such as pH, redox, conductivity, low turbidity, high turbidity, suspended solids, dissolved oxygen, sodium, silica, chlorine, fluorine, among others.

Besides the above, NIVETEC also provides telemetry systems for remote monitoring of equipment or instrument sets, supporting customers with technical consultancy, maintenance and specialized assistance for existing instrumentations in operation.

One of the most important clients of NIVETEC is Sabesp, a Brazilian water and waste management company owned by São Paulo state. It provides water and sewage services to residential, commercial and industrial users in São Paulo and in 363 of the 645 municipalities in São Paulo State, typically under 30-year concession contracts. It provides water to 26.7 million customers, or 60% of the population of the state. It is the largest water and waste management company in Latin América. It provides



basic sanitation services, which include all phases (abstraction, treatment, processing, distribution) and the collection, treatment and reuse of sewage. The São Paulo Metropolitan Region and the Regional Systems accounted for 74.5% and 25.5% of the sales and services rendered during the year

ended December 31, 2004 respectively. Sabesp also supplies water on a bulk basis to municipalities in the São Paulo Metropolitan Area, in which it does not operate water systems to local operators.

In 2009 Sabesp had 15,103 employees for 7.12 million water connections, corresponding to 2.1 employees per 1000 connections, indicating a high level of labor productivity.



Sabesp was founded in 1973. Its stocks were first floated on the São Paulo stock exchange in 1996. In 2002–2004 the São Paulo Government sold a further equity stakes, including a listing at the New York Stock Exchange. Today 49.8% of its shares are privately owned. In 2006 a law was passed that allowed Sabesp to expand its activities into other Brazilian states and internationally. It has signed cooperation agreements in Spain, Israel and Costa Rica. According to its CEO Sabesp wants to expand to serve all cities in São Paulo State.

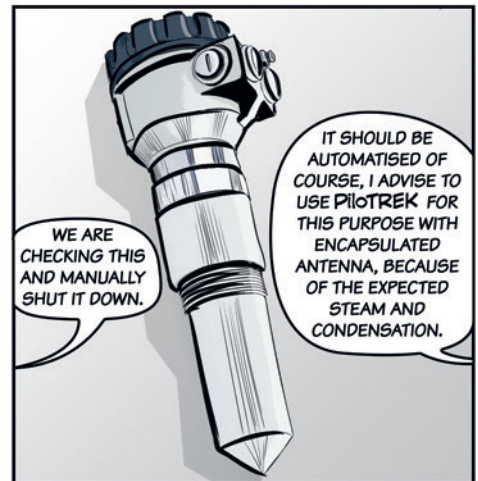
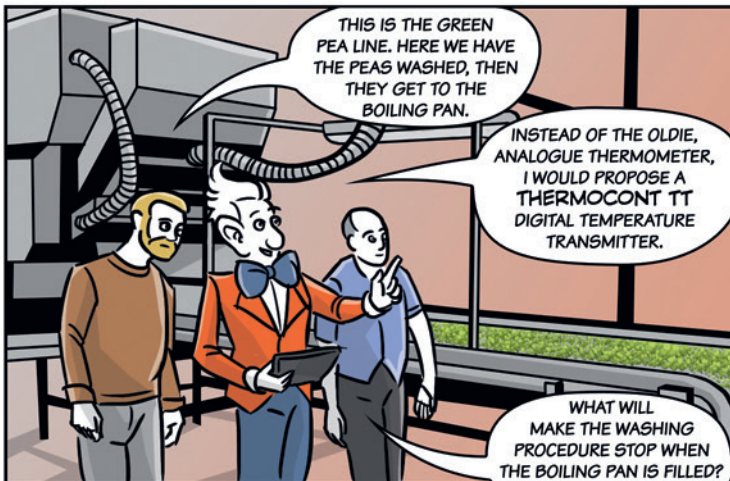
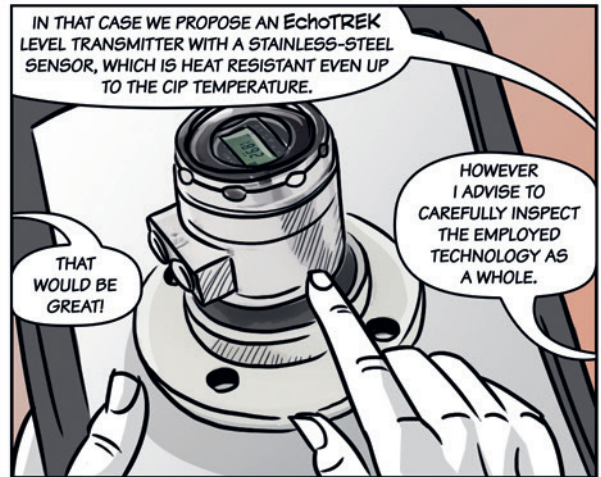
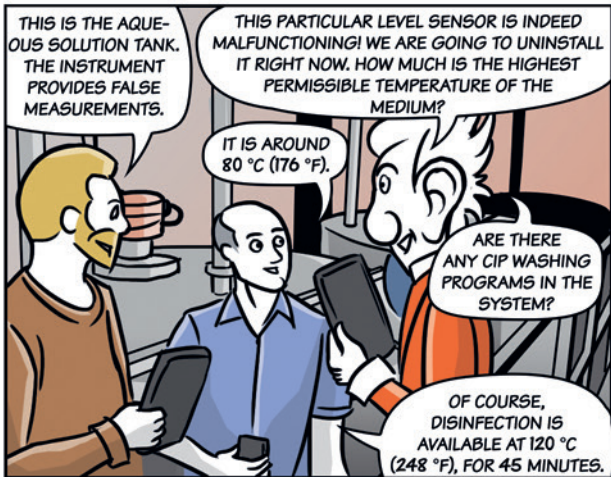
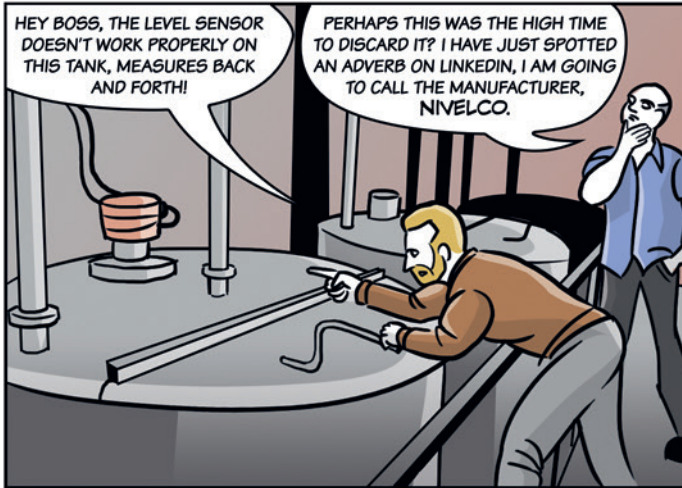
LevelBOY, the level measurement expert

Food canning factory instrumentation



PETER SZE BENI
Marketing Engineer

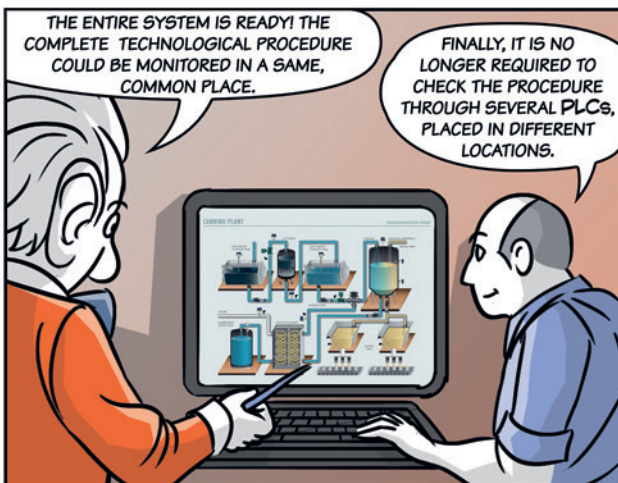
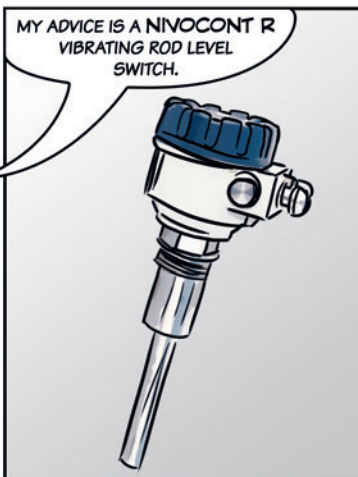
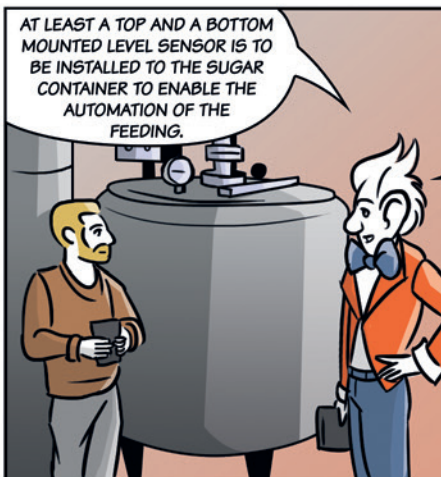
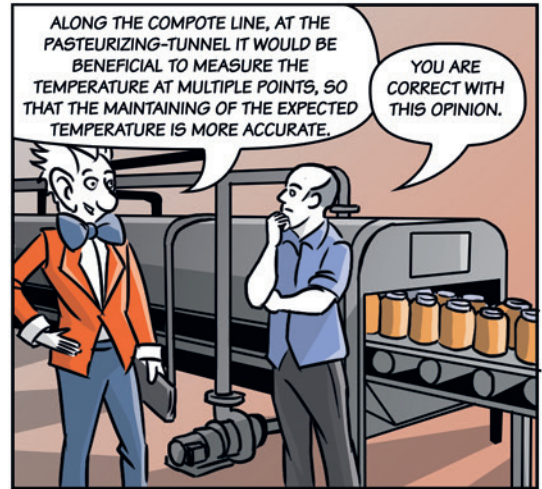
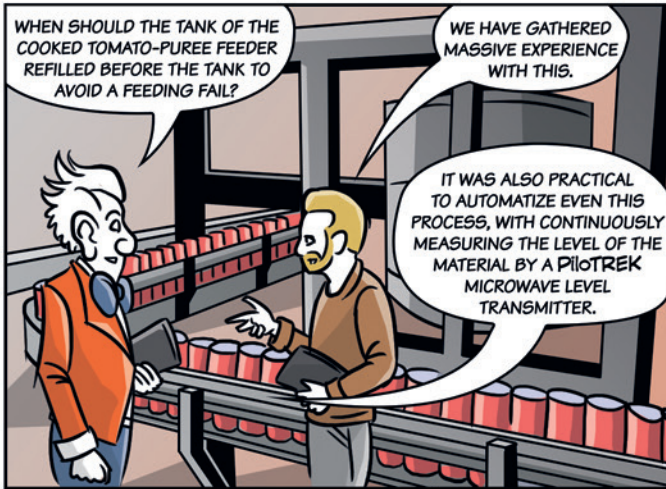
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NIVOCAP took control over wastewater treatment in Hungary



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A wastewater purifier plant in Kapuvar cleanses the urban wastewater of the city and 8 nearby settlements in a natural way. The purified waste water is poured into the neighboring river, while the sludge occurs from the purification remain in digestion towers, where it generates biogas, which will be utilized on-site at the plant. The stabilized sewage sludge, which was stored in the digestion towers, would be transported and used in agricultural applications, mainly as soil improver substance.

The wastewater treatment plant was reconstructed in 2013, in the course of which, the digestion technology has been reinstated in operation, with a purification capacity of 4725 m³ (29,719 bbl).

As outcome of the purification process, two types of roughages occur: raw- and excess sludge. The raw sludge could be extracted during the pretreatment of the incoming wastewater. When passed through the settlement tanks, the flow velocity of the wastewater reduces to a speed where heavier, floating polluting



particles sink to the bottom of the bowl. Following this, a dredging machinery passes these particles to a sump, where a pump forwards them to sludge thickener operated with a stick for further settling. The dense sludge then passed on from the stick operated sludge thickener to the digestion towers.

The pre-settled wastewater will be transported to a biologically cleansing pool, where the pollutive substance content is biodegraded by bacteria. In course of the degradation process, the bacteria start to breed. In order to ensure the consistently proper quantity of bacteria is in the pool, the excess-sludge should be removed. The excess-sludge is therefore gets on a strip sludge thickener to be passed on to the towers.

The sludge, stored in the digestion towers, provides nutrients to anaerobic bacteria. These types of bacteria execute the biodegradation of the organic substances in a mesophilic environment (oxygen-free with app. 35 °C [95 °F] temperature). This procedure primarily produces methane gases, which could be utilized as an energy resource and plays role in ensuring the temperature required for digestion and for the plant, generally.

Biogas only occurs at wastewater treatment plants employs digesting technology and not at plants treat wastewater by with natural purification.

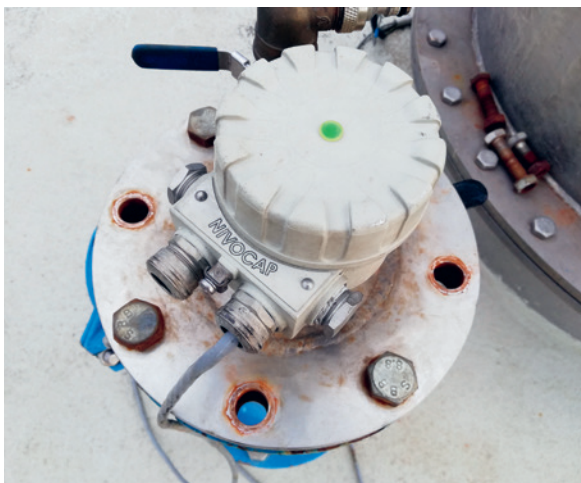
Biogas technology, however, has downsides as well. Since one of the main nutrient resources of the digesting towers is the bacterial mass of the biological cleansing rate, only the properties of the slump prevailing in the towers. The reason for this is fairly complex:

During wintertime, the temperature in the pool falls under 15 °C (59 °F), occasionally to 10 °C (50 °F), due to the lowered temperature of its wastewater input and the oxygen used for the aeration. At this temperature, the breeding speed of the flocculant bacteria significantly drops, this is less experienced with filamentous organisms. This makes the balance of the biological system shifts towards the filamentous organisms. As a result of this change, the upper layer



of the pool is covered with a coherent foam-layer. This is because filamentous organisms act as a net when interweaves wastewater. Gas flow is very limited in this medium, causes the layer with high gas content and with low density is gathered on the surface.

This excess sludge layer limits the developed biogas from splitting-off during the liquid-phase in the digesting towers. This makes the slump foaming, which causes clogs in the gas pipeline network at the back flame retardant. As a result of this, the flow of the developed gas, as well as the foaming sludge is blocked. The developed biogas leaves the tower through a safety pressure-valve, paints its sides and the surrounding area in black.



Normally, a window established at the top of the tower to check the foaming, which also provides an opportunity to observe the momentary status of the operation. Unfortunately however, there is always darkness in the tower because of the black slump, which makes it very hard to specify the level of the sludge. At occasions, the foaming is suddenly increasing, causes the overload and flooding of the slump.

The operator is given the opportunity to control the foaming with a foam-sensor is installed. An upper mounted, **NIVOCAP KR-127-5Ex** type, high-frequency capacitive switch is installed on the tower. As soon as the level of the foam reaches the probe, the probe sends a signal through process control to the operational personnel.

Upon the signal, the operators terminate any further loadings of slump, while process control turns on a cleansed water pump to break the occurred foam by water-vapor. This prevents the blocking of the network and the contamination of the environment.

The operating stability of the digesting technology is improved by the employed **NIVELCO** level switch. Besides this, for the satisfaction of the small operative staff of the wastewater treatment plant received a considerable relief.

MicroTREK doesn't let Scandinavian silos emptied



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– How many forests are in Sweden? – Quite a lot.

Territorially little Sweden is a big one amongst the countries considering her wooded area. More than half of its total area, numerically 57% or 23 million hectares are covered in forests. This piece of land is as large as the whole area of the United Kingdom.

Svenska Skogsplantor is a company that produces 140 million pine trees per year at five nurseries in Sweden. Their vision is strong and long-term, striving to minimize environmental impact. As part of this vision, they decided to invest in a new heating system, operates with biofuel.



– For environmental reasons, we are going to replace now our old boilers with biofuel ones. We strive for sustainable plant production with renewable residuals in the form of wooden pellets, we consider as much healthier solution. The heating up of the greenhouses consumes the most energy in our business, and through this climate investment, we expect to be able to reduce fossil carbon emissions by as much as 93 percent – says the Technical Director.

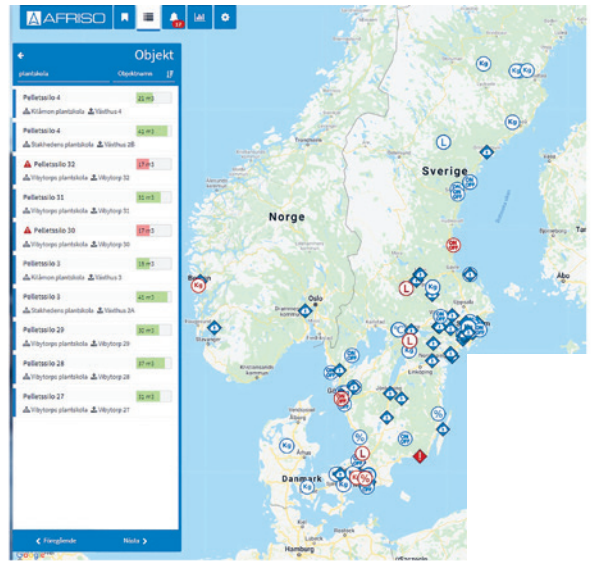
Afriso Sweden is a general supplier of level transmitters to the company that manufactures the silos for this project, and for this reason, they turned to us with the following requirements:

The main goal is to avoid the emptying of the silos. In details:

- Level control in 66 silos, that would contain pellets
- Status and function check with receiving warning signals when required as well as the possibility of remote handling of silo levels from anywhere
- Forecasting and optimized transport planning

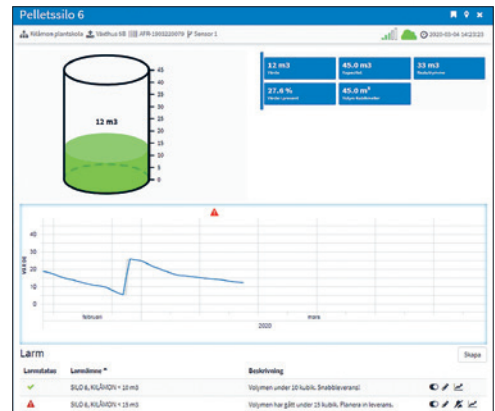
All silos were built to be exactly the same, enabling us to order 66 pcs. of **MicroTREK HTK-408-4** guided microwave level transmitters without any pretestings, based exclusively on previous successful tests. The transmitters were factory installed on the silos and the wire and its weight secured inside of the silos to prepare for transporting them on trucks to their final destinations to the greenhouses.





The remote status-checking from anywhere with forecasting and optimized transport planning of the biofuel as second part of our requirements are easily solved as well with Afriso Cloud, which is a cloud-based level monitoring service.

The transmitter is connected to a small box, named Afriso Cloud Connect, which enables the connection of up to 4 sensors and can handle a variety of protocols such as the 4 – 20 mA, which we are using in this case. The box communicates all sensor data via a mobile network to the Cloud, where these pieces of information are stored and processed. The data can now be accessed using smartphones, tablets and PCs and be presented as raw values, graphs and trends.



The pellet supplier has been given the task to ensure all the time, that the silos are sufficiently filled. To help them, they have real-time access to levels, trends, and receive also automatic alerts via email.

– The aid of cloud services greatly facilitates accomplishing our mission. This helps us remotely planning transports and routes to achieve the most cost-effective logistics. Thus we can avoid expensive panic deliveries – says a transport manager of one of the local haulage companies that handle pellet transport.



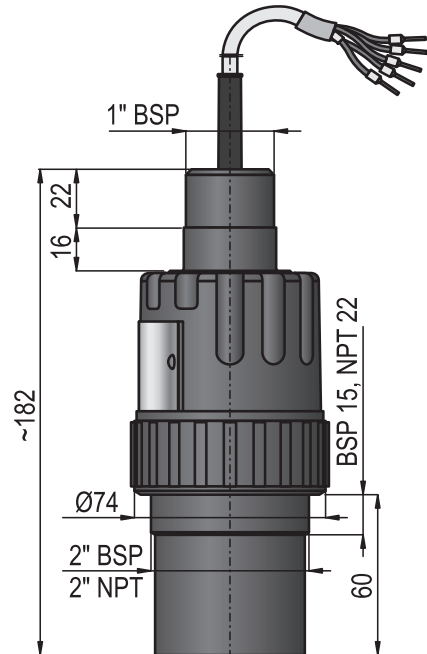


Working with Peter Domonics at NIVELCO's headquarters, Lower 48 Instruments decided that a traditional mounting bracket would risk the EasyTREK being compromised by continued submergence. Lower 48 decided to engineer and fabricate a swing arm bracket to be raised above submergence level by ocean buoys during periods of heavy rain.

As the client's budget did not allow for welded stainless and pressed bearing carrying arms, Lower 48 fabricated the swing arm in house utilizing off the shelf strut and floor brackets with buoys sourced from a partner they work with for off shore autonomous monitoring.

This solution allowed for the use of the highly accurate and budget friendly EasyTREK to measure "typical" flows during 95% of their measuring periods, which more than met the clients monitoring requirements after approvals were granted by the local governing body assigned to issue the facility license to operate.

The installation and startup went flawlessly due to the Lower 48's use of the EView2 HART® configuration software and the UNICOMM SAT-504 HART®-USB-Bluetooth® modem as the client did not have mains power to the controller during the dry period, this enabled the field technician to program and test the transmitter while waiting for power to be installed for the MultiCONT multichannel process controller.



EasyTREK SPA-58N-4

The completed system is now monitoring influent flow for the client and has been reporting continuously for 3 months with no issues. Said Chris Davis "It is through valued partnerships with firms like NIVELCO that we are able to execute quality metering installations with minimal post sales support, truly a rare thing in this day and age".

Level detection of wooden chips operated eko heating plant Banja Luka



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The heating plant of Banja Luka, operated by company EKO Toplane is the largest biomass power plant in the Republic of Srpska. The massive construction project of EKO Toplane Heating Plant began in May 2017. Biomass heating plant was built within seven-and-a-half months, which is record time. This new EKO Toplane Heating Plant uses renewable energy sources with multiple significance: economic and environmental. Primarily, this means considerable economic savings for the local community. Furthermore, this project is also developing the biomass market through the use of various waste wood, which was unused to date. An additional benefit of the new power plant is the twenty-four heating mode.

The new plant entirely complies with the standards of the Energy Community, which defined the concept of energy independence of local communities, taking into consideration multiple factors, energy security and sustainability. The carbon dioxide pollution in the area of Banja Luka has been reduced by approximately 70,000 tonnes, annually.

By putting into operation the new biomass heating plant, the integration of renewable energy sources and clean energy technologies has begun, housed in a modern management system.

EKO Toplane Heating Plant Banja Luka is the biggest biomass power plant in Bosnia and Herzegovina, with the capacity of 49 MW. The plant has 10 generators, each of them equally with 4.9 MW capacity with auxiliary equipment.



EMT Elektro Engineering company was involved in the automation part of the project, with fabricating electrical cabinets, supplying circulating pumps, fans, sensing and networking equipment for field instrumentation, programming PLCs, SCADA and for putting into operation.

A modern operations and control center is designed to control the entire district heating system of Banja Luka, heat production and distribution. At this site, EMT Elektro Engineering installed two pieces of SCADA software in the new EKO Toplane heating plant and for the main pumping station in the existing plant, as first phase operations.



In the automation part of the project, the most advanced processing equipment is available has been used. The plant consists of 10 boilers with 4.9 MW capacity each. Each boiler has its own storage to stock and unload wooden chips. Each storage has three hydraulic appliances for loading wooden chips and recharging the transporter.



One of the challenges was to detect the wooden chips running low above the screw conveyor. Considering the specificity of the application, the inhomogeneity of the working conditions, caused by the variety of medium and small assembly spaces, EMT Elektro Engineering performed tests.

The tests used a NIVOCONT RKH-602-1 vibrating rod level switch aiming at finding the best position for placing the vibrating rod, assuring the reliability of the operation even under the most difficult working conditions.

Vibrating rod RKH-602-1 was given a task to detect when wooden chips run low, placed in a position so that a rod is fitted over the screw conveyor to provide a signal to activate the hydraulic unit. Upon the signal, the unit pulls an extractor above the conveyor, which moves wooden chips back and forth until the conveyor's storage is filled up with wooden chips.

The test results were very good and eventually we installed 50 pieces of NIVOCONT RKH-602-1 type vibrating rods in our system.

Optimized and complex control solution ensures water supply of Pirot city



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In the reservoirs of those water supply systems, which are frequently used for provision, via different distribution network zones, the quality and continuity of the water supply and thus the water reserve falls in periods of peak consumption. To fill up the reservoirs, pumping stations use supply networks (with boosters) directly to extract water or from the reservoir's chamber located either in a lower zone nearby or within the pumping station itself.

The conventional control mode usually achieved by an application, which turns on pumps after a particular, preset bottom level is reached, and shuts them down having reached the desired preset top level. Scheduled timings of the turning on/off of the pumps depend exclusively on the water level in the reservoir. These schedules are unpredictable, as influenced by water consumption requirements.



NIVOPPOINT NPK-400



Since pump stations often located in peripheral areas of the water supply system, they are unable to operate during periods of increased water consumption due to low inlet pressure. Conventional control algorithms do not take into consideration during daytime. Because of the above reasons, the water in the reservoir is at the minimum level when water consumption is at its peak.

The basic idea of the optimized control is to equip one or more pumps with a frequency converter, which offers the possibility of continuous change of the water-flow filling the reservoir.

This ensures that all pumps work with a predetermined, optimal capacity (water-flow) to adopt to the unforeseeable water consumption demand. Consequently, the amount of consumed electric power is reduced to the possible least. The value of the measured water level in the reservoir is

transmitted to the PLC controller of the pump station, usually via GPRS communication (or by other channels of communication as copper cable, optical fiber cable, radio, WLAN, satellite link etc.). Preset times and predefined values of minimal and maximal water levels in the reservoir during daytime, manually entered using the display of the PLC controller.

The system determines the required capacity of the pump station in order to ensure the minimal and maximal water levels in the reservoir at the given time. Since water consumption varies from day to day, an advanced control algorithm is also implemented. In the event of drastic consumption changes, the control algorithm adjusts the capacity of the pump station.

Optimized control solution provides:

- water supply quality increase with secure water supply to the reservoir and to the consumers
- the reservoir is full when it needed the most
- the service of consumers with water is not interrupted by fluctuations in the water supply to the pump station
- the necessary replenishing of water in the reservoir ensured
- automatic compensation of daily and seasonal fluctuations in consumption
- elimination of the influences of other consumers in the system on pump and pump station operations
- cost reduction of electrical energy achieved by reduction of line losses. Line losses are caused by extreme pressure drops in booster pipelines at increased flow
- pump's cyclical operation
- reduction of mechanical, hydraulic and electrical shocks within the system
- protection of the pump from running dry
- protection of pumps from working outside of the capacity curves
- prolonged lifetime of the pumps
- reduction of the costs of extraction

Indas completely automated the pumping stations, including all reservoirs in the water supply system in city Pirot.

Pumping stations are relocated, some of them to a site without main power supply; therefore we had to use solar panels to supply powered equipment.



Reliable level measurement is essential for these types of applications. Based on many years of excellent experience using NIVELCO equipment, all reservoirs, that were equipped with hydrostatic level transmitter NIVOPRESS NPK-400, conductive probe NIVOCONT KSK-201 and level switches NIVOCONT KRK-512.



NIVOCONT KRK-512-5

An ultrasound pilot project for giant-scale silos



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NIVELCO's ultrasound level-sensors for solids are used for decades with great credibility by our partners for level measurement in grain silos. The accurate specification of the volumes of solids, stored in silos with large diameter challenged the responsible until recently since the surface of the stored substance is uneven. The reason for this phenomenon is that in the majority of the cases, the filling of the silos carried out via multiple conveyor fed inlets or the unloading of the material uses various outlets to be forwarded by screw conveyors or discharge valves. These might cause to multiple loading or unloading cones occur

in the containers even at once. Thus, the level and volumetric measurements upon the usual, single point method, delivered inaccurate values.

So far, it was exclusively possible to obtain accurate measurement results using expensive, custom-tailored, specialized instruments or laser scanners.

At the premises of one of the domestic grain processing companies, a number of large containers are operated. The diameter of the silos is 28 m (91.86 ft), their skirt height is 26 m (85.3 ft) while their total height is 32 m (105 ft). The task of the accurate and cost-effective level measurement of the silos greatly challenged **NIVELCO**. As an experimental project, our professionals designed a unique instrument, using available, conventional ones.

The heart and soul of the testing system is our own development, which consists of an industrial PC, installed with a custom version **NIVISION** software for visualization and process monitoring. The PC, alongside several auxiliary units, was mounted into a control cabinet. The dedicated software calculates ultimate measure values using an algorithm, designed for the purpose processing level inputs.

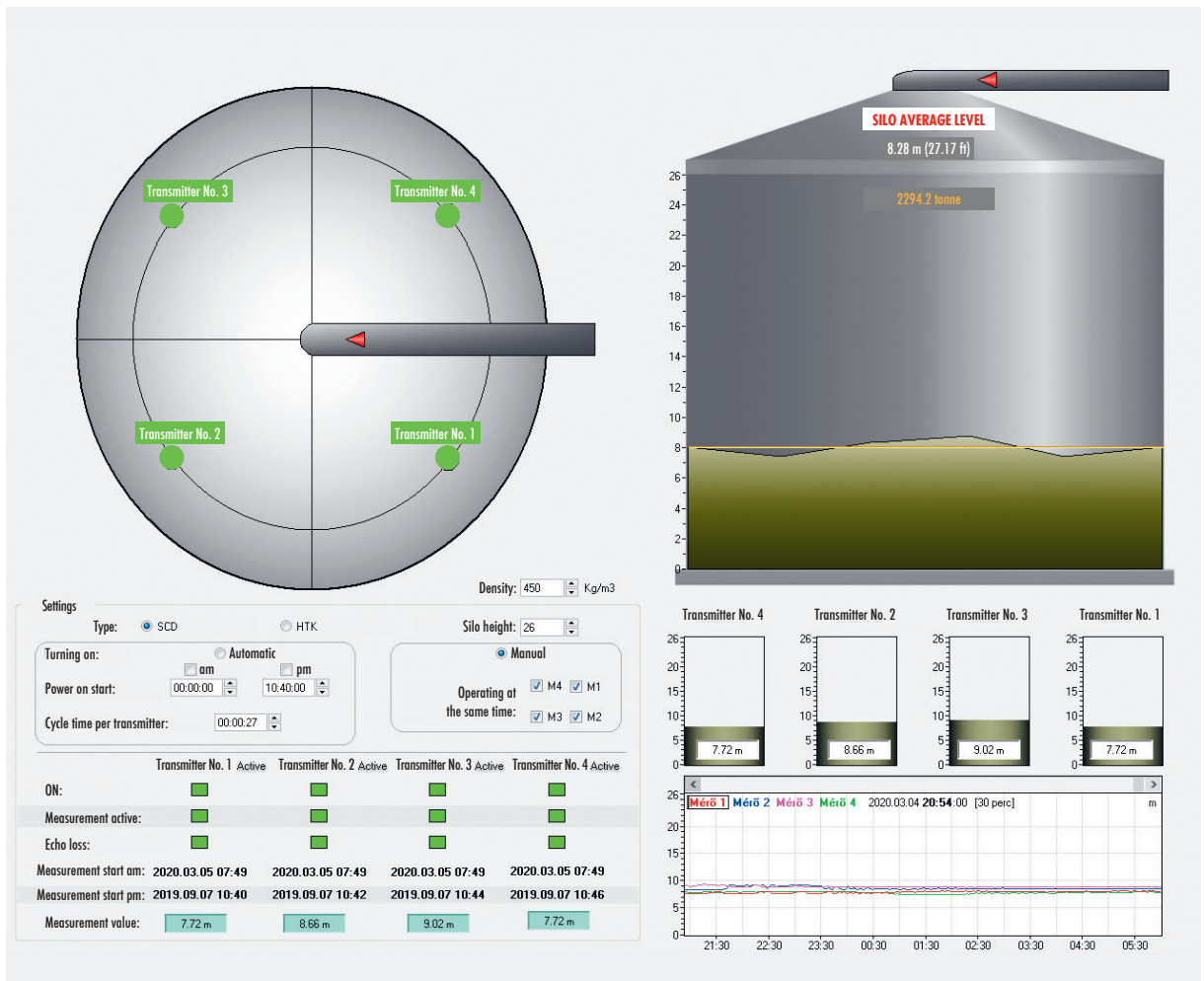
In addition to the PC and the usual elements – power supplies, circuit breaker, accessories and relays, etc. – we installed 2 pieces of **UNICOMM SAK-305 HART®** Modem modules in the control cabinet to isolate the level sensors and to transfer the measured data in

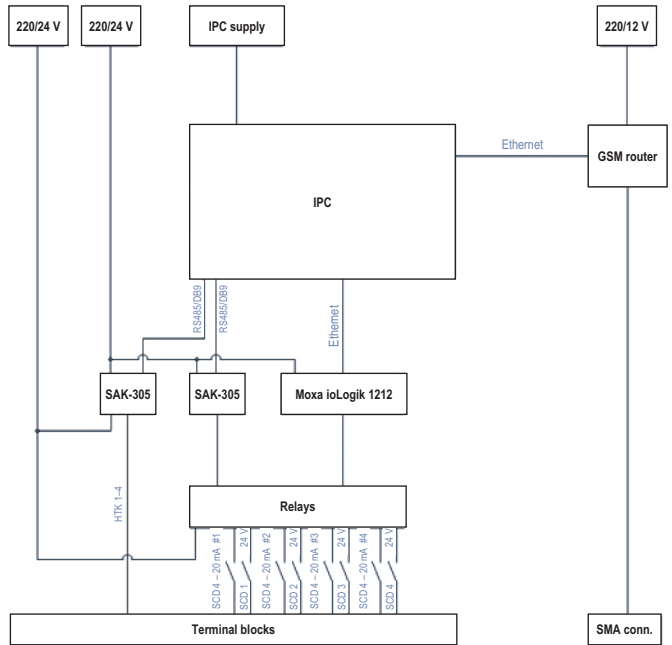


the form of HART® signals to the PC, via RS485 line, and an 8 i/o Moxa E1212 Ethernet module, which operates the isolation relays by an ethernet connected PC's commands, depending on the programmed modes. The layout of the control cabinet and the block diagram of the system on the top of the next page.

The instruments used for the measurement were four pieces of EasyTREK SCD-31J-8 ultrasound level transmitter. Because of the centrally-located feeding, these devices were placed steadily around the perimeter of a pitch circle. The placement and the number of the instruments may vary by the size of the silo and the position of the feeding, and specified in each upon individual assessment.

The system is capable of measuring in two modes. One of them is when all four measuring heads are working continuously in the same time and – this was implemented at the current application –, while in the other mode the software turns on only a single level transmitter at a time, bound to a particular point of time and their operation is intermittent. In this mode, the activated transmitter measures the level, then, upon how its functioning was set up, shuts down the transmitter and switches to another one. Having the data gathered from all four measurements, the software takes their average and calculates the momentary volume and weight upon them, then repeats the procedure with a frequency specified by the operator. The selection of the mode is based on the location and distance of the transmitters from each other. Since the rate of the measurements is identical, the intermittent mode should be selected in each case when the devices installed with a distance less than 10 meters (32.8 ft) from each other.





The control cabinet contains a GSM router module as well. Thus, the traceability of the measured and processed signals is ensured even using a remote PC, as well as the remote access to the measuring instruments is enabled. With the help of the 2-way communication, the settings of the level transmitters became adjustable in a remote way. This option was available all through the testing session, upon the results of the measurements, using the **EView2 HART®** configuration software application, without the necessity to visit the site to climb silos. The next figure shows the results of the ongoing analyses:

The purpose of the measuring instrument is to facilitate **NIVISION** software to calculate a summarized value with the expected accuracy derived from the data provided by the level transmitters. Then these values are also stored and displayed in the form of a desired trend by the instrument. The mentioned 2-way communication not only allows access to the instruments but also to other software run on the industrial PC. During the test session, volumes of the loaded and unloaded material had been continuously checked to provide an appropriate point of reference for the verification of the values, calculated by the software. This procedure made the fine-tuning of the software parameters pos-

sible, which could be immediately uploaded in on-line mode, in a remote way to a PC module, operated on site. The visualization SW displayed all the measured parameters, both individually and summarized.

The testing system is designed to suit multiple measuring tasks. The control cabinet could be relocated and also operated with other types of measuring instruments of level measurement – based on an altering principle – temperature measurement, etc. Any types of devices using **HART®** connection could be connected and used as a signal source, can be set up in remotely or tested. It could even be installed outdoors where there is a mobile network available with sufficient and stable service. In the practice followed through so far, the user-specified a level by manual measurement and guessed upon what was seen, whether a loading or unloading cone, and calculated a volumetric value using an excel spreadsheet based on this information. Taking the sizes of the silos into account, this method provided a fairly resulted. Comparing to this practice, the result provided by the new testing system is way more accurate; according to the calculations, the accuracy remained within 10% constantly.

This result might provide reason for **NIVELCO** to be proud of as well as satisfies the client, and the installation of the entire silo-park with these devices is expected.

A system-level solution involving MultiCONT, PiloTREK and UNICONT in a Romanian project



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IMPRO SRL is a Polish owned company, which is recently handed over a metallic panel producing plant at Timișoara.

Recently we could manage to win a tender, of which success we attribute to our other Romanian project references gathered in course of the past in the SC Spumotim SA., Johnson Controls Romania SRL, and Topanel SA. projects. NIVELCO's instrumentation played an important role in the completion of the level and volumetric measurement task of 5 pieces of polyol and isocyanate tanks, which are used for the production of heat-insulated panels with polyurethane foam and a pentane container. These panels are used as catalyzer during the production process.

Our all-new NIVELCO system replaced an old and outdated one, featured Rosemount radars and digital displays.

The main challenge of the task was to apply PiloTREK non-contact microwave radars in this medium. The task was to measure the volumes of the tanks and to display the measured values in a MultiCONT signal processing unit. We used external UNICONT PJK relay modules for the alert. The minimal and maximal alerts we expressed with red and green feedback lights, mounted on the instrument cabinet, we designed and built. The alert of the minimum level is set to 0 volumetric value, while the maximum is to 80% of the capacity of the tank.

Since the containers were located in a heated room, there was no need for temperature compensation.



The client intended to use the existing joints of the containers for the mechanical connection of the devices. Two of the PiloTREK radars mounted on the axle of the containers, while 3 is with 60-centimeter (23.6 inch) distance from the containers' walls. The height of the containers were 6 meters (19.7 ft).

The system we installed with an RS485 output so that it is upgradable and also to enable the processing of the measured data by a process visualization software, running on a PC.

The manufacturing process uses pentane as catalyzer. The client has therefore requested the level measurement of the pentane tank as well. Considering the highly explosive environment, we used a NIVOTRACK Ex magnetostrictive transmitter and a MultiCONT process controller for the level measurement and regulation of the horizontally located, cylindrical container. The client provided a linearization chart from the manufacturer of the container with 99 points.



Equipment used for the project:

- 5 pcs. of PiloTREK WPM-186-4
- 1 pc. of MultiCONT PRD-28A-1
- 5 pcs. of UNICONT PJK-102-4
- 1 pc. NIVOTRACK MTU-527-8Ex
- 1 pc. MultiCONT PRW-212-6Ex

New snowboarder amongst NIVELCO's supported paralympic athletes



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The success story of Lilla Fekete

The life of *Lilla Fekete* from Kaposvar, Hungary was entirely tumbled over on 24.07.2013. following a car accident, in which she lost her left arm. Only one thing hasn't changed at all: Sport has been playing the protagonist's role in her everyday life since and before that ill-fated day. Without Snowboarding, she couldn't even exist. They started visiting Epleny with her parents, where she got familiar with this kind of sport. Then, during the autumn of 2018, they approached the Hungarian Paralympic Committee, where they pleased with their interest. Through this committee, they got in touch with the Hungarian Snowboard Association, which provided the proper professional background for *Lilla* to make her dream come true. The goal of the sporty youngster is not less, but to participate as competitor the 2022 Winter Olympics, will be held in Beijing. The para-snowboarder, represents the sports center and school of Kaposvar, encouraged to step up from a hobby to a competitor level in Dubai. The desperate girl is escorted to this "desert adventure" by her

coach, *Rozsa Harmat Nemethne*, who is a 12-times all-national champion and the Secretary-General of the association. Ever since then, *Lilla* participated a number of international training camps (in the Netherlands, Sweden and Italy). An initiative named "Adaptive Board Chicks" have also put into action with the support of the Agitos Foundation, with Bell Berghuis, a Dutch Olympic athlete and chief trainer of the Paralympic Snowboardcross national team. The unique feature of the initiative is that this event is exclusively organised for female competitors, thus reinforcing the field of the female snowboard racers. *Lilla* was lucky enough to participate both training camps, alongside Swiss, Italian, Polish, Spanish and Canadian athletes. The first European Championship round of the international para-snowboard racing season was held in mid-November in Landgraaf, where *Lilla* could manage to compete also as the only hope of our nation. 71 racers of 19 countries from various locations of the globe competed here. This was *Lilla's* first-ever competition! The purpose of the participation was to gather experiences and get a general insight of the racing environment and conditions, since this was the first opportunity for *Lilla* to train herself on a real, banked slalom track. Eventually, *Lilla* finished 8th in the Euro Cup.



This year was the first time ever, that the Winter Paralympic Games was held in Poland, in the ski-center of Czrna Gora, between the 24th of February and the 1st of March. The event's main organiser and host was the Polish Paralympic Committee.

The continental tournament were 160 winter para-athlete competed, was participated by 15 European nations with Hungary amongst them and Mongolia as an invited guest. Lilla Fekete, who was only 15 years old at that time, could manage to get the silver medal in giant slalom as a para-snowboarder. Amongst the Men, the visually impaired para-alpine skier, *Zsolt Balogh* slid to Bronze in slalom, escorted by his coach, *Botond Simonffy*.

Quoting from Lilla's post-race statement:
"– I express myself in sport, and I don't have any idea what I would do if I can't snowboard... I can't tell how much these results make me happy. It is never easy to compete with adult, since routine is a huge advantage in this sport. All in all, it is an amazing feeling to know, that I have reputation across Europe and my rivals know they have to calculate with me. These all sound as perfect feedback to me, telling that it is worth for me to spend time on this, focusing on the 2022 Paralympics of Beijing. However, in order to get to there, I needed even more training and I mustn't be uncertain of the success. Because I may indeed succeed!"



In course of the second half of 2020, the continental tournaments and world cups will be beginning, following the preparational training camps, which will also act as qualifications to the 2022 Winter Paralympic Games. Her long term goal is to qualify for both the World Championship, which will be held in Lillehammer in February 2021 and for the 2022 Winter Paralympic Games of Beijing.

NIVELCO PROCESS CONTROL CO. has been supporting the winter sporting and competing of handicapped people for several years. This year, *Lilla Fekete* was lucky enough to join the supported ones.

Thank you, NIVELCO!



Interview with Noa Szollos – BBC World Service



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BBC: – It's been a fantastic week of competition for Israel. The country has won its first medals in any sports at a Winter Games, and the success of Israel could be attributed to a single, young woman.

Noa: – Hello, I'm Noa Szollos. I ski for Israel, and I have just won a bronze and a silver medal at the Youth Olympic Games in Lausanne. It's absolutely fantastic. I can barely put it into words, so many people are asking me now, and I still don't know how to describe it.

It's such a feeling of pride. It's been crazy, so many people have messaged me. I can't even answer everyone. There's just so much going on right now.

BBC: – We'll talk about how did you win those medals a little bit later, I want to take you back, though how did you first get into skiing then Noa?

Noa: – My dad used to be a skier. He became a coach in Israel later on. I have two older brothers, so I started skiing with them. We all started at a very young age, when we were 2 or 3 years old.



During the first half of the year, I was in Hungary and during the skiing season and winter, we were actually in Austria. You can't really ski in Hungary as there are not many mountains suitable for training, so I started skiing in Austria.

I also go to school in Lower Austria, Waidhofen an der Ybbs. It's a School specialized in skiing where we don't have school from December to March so that we can focus on training and races.

This way, I don't have to worry about school until I go back in March.

BBC: – That's pretty cool, being able to ski and get away from school for a few months.

Noa: – Yeah, I mean who would want to sit in school when you can ski all around the world.



BBC: – What was the moment when you found out that you could do this even on competition level?

Noa: – I think the moment that I knew, or at least thought that I could do this, was happened when I won my first international children's race in Andorra. I was so happy to be the best of all the represented countries. It was a huge moment for me.

BBC: – And if we take you full of Noa to competing now at the Youth Winter Olympics and winning your first medal, the bronze in the super-G. What do you remember from that winning run, how challenging was that, and what did you experience there?

Noa: – On the top, I was a kind of slow, so I didn't know what to think during the run. And when my coach got down to the finish, he was like: "when your dad told me that you got in first, I thought he was kidding because you looked so slow at the top section, that I thought you would get in last."

And I just had to laugh so much because when I skied through the finish line, and I saw the 1st place I couldn't believe it either, I thought someone was pulling a terrible prank on me. But when I realized that it was true, I felt so happy. I felt like a little child who found some chocolate at home. I felt like I finally found my chocolate.

BBC: – What did you get is a little bit more than chocolate. It was a bronze!

Noa: – Of course, it was frustrating when these two amazing girls pushed me down to third place, but considering my mistakes, I'm still very happy and amazed by the fact that I was only nine-hundredths of a second from grabbing the gold medal.

BBC: – Well, a bronze and then a silver in the Alpine combined is surely beyond your wildest dreams of what you could achieve.

Noa: – The Alpine combined was an even bigger surprise because usually, slalom is my weakest discipline, so coming into the finish in the second position and then staying there, I couldn't believe it. It was probably an even bigger surprise than the super-G. I finally put together two perfect runs. I've been trying it for so many years now, and it all came together perfectly.

BBC: – Where can you go now? Are you looking at the Olympics in 2022; is Beijing a target? What more do you think you will be able to achieve?

Noa: – I'll probably go to Beijing, I think I have pretty good chance at qualifying, but I'm not thinking about getting a medal yet. I don't think I could keep up with the best in the world. I'll be happy to be there. But I'm looking forward to the future. In four or five years, I hope that I'll be part of the World Cup and I hope I'll be able to compete with the best. I'm looking forward to the 2026 Olympics. I hope that I'll have another success story there.



BBC: – Well, we wish you the very best for the future! Before you go there, now just confirm for me if you can ski in Israel, can't you?

Noa: – Obviously there is enough snow to ski on the mountains in Israel, but sadly it only lasts for around two months and for me there aren't enough possibilities to train there, but I hope I'll be able to ski there one day.

BBC: – Ah, I see, but is there enough snow so that you can go and get your skis in Israel.

Noa: – Yes.

BBC: – You've had an incredible time in Lausanne. Thank you so much for talking to us Noa.

Noa: – Thank you very much!





**NIVELCO
SKI TEAM**

ADMITTEDLY, NIVELCO'S RACING TEAM CLOSED ITS SHORTEST, BUT MOST SUCCESSFUL SEASON!

The several rostrum-finishes even added with two Olympic medals this season. **Noa Szollos**, burst into the forefront of Alpine skiing already in her first-ever FIS season! Even as a rookie, she could manage to achieve 13 rostrum-finishes, acquiring amongst them also the silver and the bronze of the Youth Olympics.



"– Even though the season was cut short, I am mostly satisfied with my results for my rookie FIS year. I would've liked to improve my GS and Speed points in the last two months of the season but taking the current situation into consideration I find myself to be in a very fortunate position. Being able to train at home and get ready for the next season is extremely important right now. I'll try to make the most of this lockdown by training as much as I can to get ready for the 2020/2021 season."

Barnabas Szollos also returned to the technical events successfully, earning a medal on an international level competition for the 21st time in total including his 4 rostrum-finishes of the season. He is currently ranked globally within the Top150 in Alpine Combi-

nation and in the Top260 in Downhill and Super-G. "– After my first season with Kronplatz, I really improved a lot in my skiing technique. I made good slalom and Alpine combined points but did not have enough chances to improve myself in GS and Downhill. All the races were canceled mid-season and ski training was also not allowed. We had to come back to Hungary and start the summer training. Fortunately, we have a lot of Gym equipment at home so we can do all the training we need. Now we have a lot of time to prepare for next season and the World Champs."

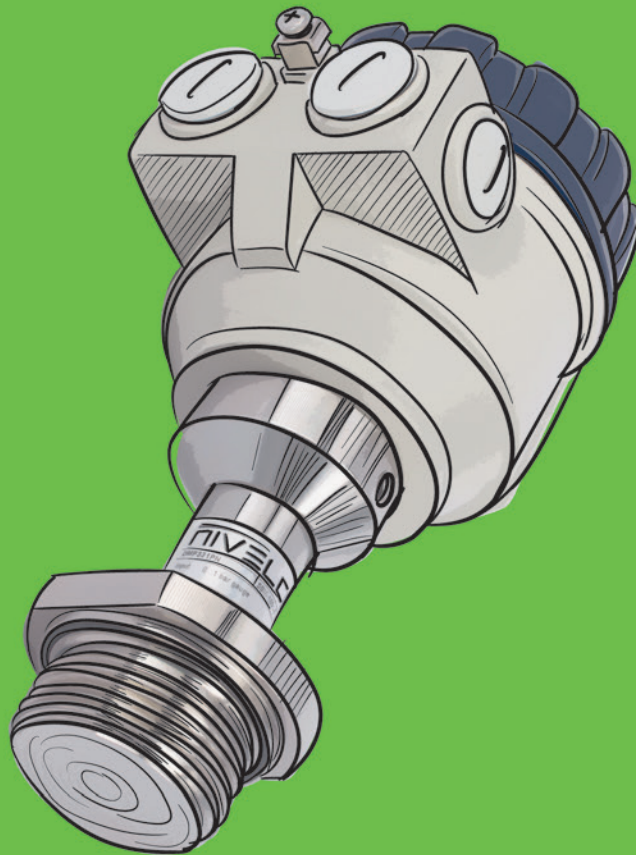
Benjamin Szollos continued to perform well in the technical events, besides acquiring precious points also in the fast events. He could manage to step on a rostrum for the 23rd time on an international level competition this season. He is currently in prestigious positions of the world ranking in all 5 events.

"– Season 2020 ended way too early, but I enjoyed it while it lasted. I improved in all 5 disciplines compared to the season 2019. And it's the first time, that I made it into the Top500 in 4 of 5 disciplines. This improvement happened because of good decisions in the pre season:

1. Switching to a new team with a different philosophy of alpine ski racing.
2. Switching to a different ski supplier
3. And of course lots of hard work in summer.

I want to thank Kronplatz Racing Center for accepting me into their program, Salomon for supplying me with skis and boots, NIVELCO and the Israeli Ski Federation for the funds and advices, and everybody else who helped me in this season! See you in the World Championships season 2021!"

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