HILLER
separation & process
Member of the ferrum Group

NEWS 2022

HILLER expands the DecaSmart series

SWTP Grünstadt
opts for HILLER technology

HILLER decanters in
1,600 metres underground

OVERVIEW

THE 1,000TH SEE-CONTROL
A SUCCESS STORY IS CONTINUED

Since 2012, HILLER GmbH has relied on the SEE-Control decanter control system developed in-house. It was designed to ensure the best process results and optimum energy consumption of the Hiller decanter.

In its now 10 years of use, the SEE-Control has been able to convince with its reliability, durability and user-friendliness.

In order to remain a pioneer in the field of control systems, we have further developed the SEE-Control and significantly improved it both technically and visually. In 2021, the SEE-Control was then replaced by its successor, the SEE-Control pro.

The new visualisation of the SEE-Control pro convinces with a fresh and simple design and was awarded the German Design Award 2021.

At the beginning of 2022, a total of over 1000 SEE-Controls had already been delivered. A real milestone and a real success story, which is now being continued with the SEE-Control pro.

For more information on the SEE-Control pro, visit our website: https://www.hillerzentri.de/images/pdf/Flyer_SEE_Control_pro_EN_web.pdf

INNOVATIVE SEWAGE TREATMENT PLANT GRÜNSTADT OPTS FOR HILLER TECHNOLOGY

The disposal and service company Grünstadt AöR, the service provider of the city of Grünstadt, is responsible for the maintenance and care of the municipal areas as well as the operation of the sewage treatment plant Grünstadt.

A sewage treatment plant for 44,000 P.E., which is widely known for its innovative orientation towards decentralised economic sewage sludge treatment. The digested sludge, which is dewatered by a HILLER high-performance centrifuge, is dried on site using solar technology and then fed into a sewage sludge reformer. In the long term, this completed, decentralised treatment process should enable the option of energetic utilisation of sewage sludge and a present raw material for phosphorus recovery.

Of course, we are particularly pleased to be present in this highly innovative environment with our HILLER DP45N high-performance centrifuge and its process engineering advantages. The decision to renew the sewage sludge dewatering treatment plant in 2020 was preceded by a public tender competition, in which the characteristics of HILLER's offer were decisive for the award of the contract.

Currently, about 12,500 m^3 of digested sludge with an initial dry matter content of 2 -3 % is dewatered annually to 26 % to 29 %. It is a matter of course for HILLER that the highest degree of separation in the centrate of 99 % is achieved independently of the season.

Quote from Mr. Mathias Noll - plant manager of the Grünstadt sewage treatment plant:
„I am happy to confirm that the successful implementation of the project for the construction of the new sludge dewatering plant was based on the high-quality technology used and the very good cooperation with the committed and experienced employees of HILLER."

WE ALL NEED CLEAN WATER & HILLER'S TRAINEES MAKE A START

For the start of training on 1st September 2021, HILLER GmbH was pleased to welcome four new apprentices who will support them in production.
Mr Christoph Kopp, Mr Philip Prill and Mr Lukas Breitenacher as industrial mechanics and Mr Simon Mühlhofer as mechatronics engineer. In the future, all four of them will acquire different skills related to metal in the company's training workshop.

In order for the new trainees to get to know each other in the first few days, an apprentice excursion was organised for the trainees of all apprenticeship years right at the start of the new training year on 2nd September 2021. On this day, the apprentices should not only see a HILLER centrifuge in operation directly at the customer's site, but also learn what team building means and that you can achieve more together than alone.

The day started on the company premises of HILLER GmbH in Vilsbiburg and then a bus took them to Vilshofen to the local sewage treatment plant. Once there, the trainees first learned what a sewage treatment plant does, how it works and why it is so important for all of us to clean and treat our used water again. This process is also supported above all by our centrifuges. At the end of the tour, they were then able to see the HILLER centrifuge directly in action. Here the customer emphasised once again how satisfied they are with the complete plant and the service from HILLER.
– That is of course motivating!

After that, team power was needed. Near Neuhaus am Inn, the trainees and their instructors got into rubber dinghies and rowed together on the Inn almost to Passau. Here they quickly learned that it is advantageous to coordinate and row together. Just as is the case in everyday work.

They also mastered somewhat wilder places with flying colours and of course there was a race or two. In the end, however, everyone arrived safely in Passau and after the day's exertions they really deserved the huge pizzas they had for dinner together. In any case, everyone agreed that the apprentice excursion was a success and always a nice part of the training at HILLER.

DRINKING WATER FOR SILICON VALLEY
WITH THE HELP OF HILLER CENTRIFUGE TECHNOLOGY

What do Tim Cook, Sundar Pichai, Pat Gelsinger, Lisa Su and Chuck Robbins have in common as CEOs of the most important Silicon Valley companies?
They all, together with hundreds of thousands of their employees and millions of residents in the Santa Clara district south of the San Francisco Bay, enjoy the excellent drinking water, treated with centrifuge technology from HILLER.

Sufficient and high quality drinking water cannot be taken for granted in a region that has been characterised by droughts for many years, with declining groundwater resources and rapidly increasing population. For this reason, the collection, treatment and distribution of drinking water is becoming increasingly important as the proportion of surface water increases.

The local water utility Santa Clara Valley Water has therefore decided to modernise the water treatment plant in Rinconada. The target is a discharge capacity of 100MGD (million gallons per day).

As part of the treatment process, the reliable and efficient centrifuge technology from HILLER was again chosen. The sludge produced during water treatment is now dewatered to the maximum after precipitant treatment with the help of two HILLER DP66-422 decanters, which also reduces disposal costs to a minimum.

In this way, the Bavarian company is also making its contribution to ensuring that one of the most important software and hardware centres in the world will not be left high and dry in the future.

HILLER RECEIVES ORDER FROM ROTTERDAM WASTEWATER TREATMENT PLANT FOR TWO DP664 DECANTERS

We are proud to have been awarded the contract for two decanter centrifuges by the Rotterdam wastewater treatment plant (Waterschap Hollandse Delta).

Slibverwerkingsbedrijf Sluisjesdijk (sludge treatment company Sluisjesdijk) is an important part of the Dutch water board Waterschap Hollandse Delta and is closely connected to the wastewater treatment plant Dokhaven (Rotterdam). The existing centrifuges used for dewatering the resulting digested sludge are now outdated and need to be replaced. Waterschap Hollandse Delta had chosen for tendering this project based on lowest life cycle costs for 15 years.
This includes, among other things: sludge disposal costs, polymer consumption, energy consumption, maintenance and investment costs.

Compared to various competitors, HILLER Technology's life cycle costs were the lowest.

Before the final order was placed, Hiller's guaranteed values were verified in on-site trials.

Two DP664 decanters were ordered, each with a maximum capacity of 1,600 kg DS per hour. Delivery of the decanters is scheduled for the second half of 2022.

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LYUBERTSY WASTEWATER TREATMENT PLANT RELIES ON HILLER THICKENING TECHNOLOGY

With its capacity of 3 million m^3 per day, the Lyubertsy (Moscow) sewage treatment plant is the largest sewage treatment plant in Europe. The plant is fed from various districts of Moscow and other small towns.

In order to achieve optimal thickening results at the sewage treatment plant and thus to significantly increase the economic efficiency, the Lyubertsy (Moscow) sewage treatment plant decided in favour of HILLER after an international tender. The decisive factor for awarding the contract to HILLER was the comprehensive overall concept solution, which was convincing both in terms of process technology and economy.

A total of 8 decanters of type DP764 with associated plant peripherals were ordered.

The planned commissioning for the project is in autumn 2022.

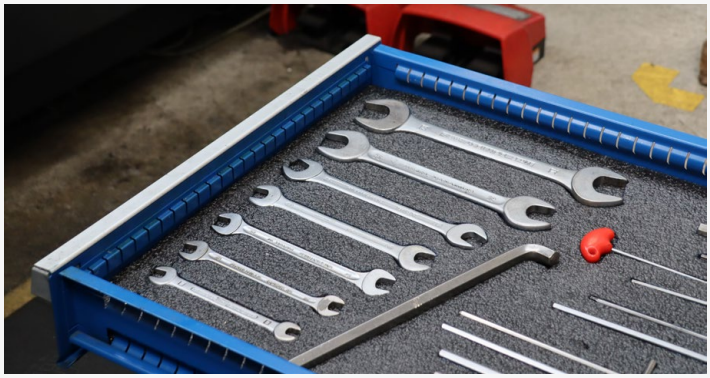
THIS YEAR, HILLER IS AGAIN INVESTING IN PROCESS IMPROVEMENTS AND OPTIMISATIONS IN THE AREA OF PRODUCTION AND TECHNOLOGY

In order to maintain and expand a leading role in the market, every company must consistently optimise its processes and procedures. For HILLER, too, standing still is never an option. That is why this year, too, investments were made in process improvement and optimisation of procedures in order to improve value creation, shorten throughput times and consistently design all work steps to increase quality.

Process optimisation in the interest of the customer
Already in the previous year, the packaging process in the warehouse area was optimised across several departments in the SAP system and supplemented by an additional end-of-line inspection. One year after the process transformation, a pleasing conclusion could now be drawn. The potential for shipping errors has been significantly reduced, which directly benefits both the customer and the company.

The goal of meeting the requirements of the "six right ones" of logistics, i.e. providing the right products, in the right quality, in the right amount, in the right place, at the right time, at the right costs, could now be achieved.

Continuation of 5S – clarity and workplace organisation
The 5S method is a procedure in Lean Management, the aim is to organise one's own workplace effectively and thus avoid wastage of all kinds, such as search times.



The 5S stand for
- Sort
- Set in order
- Shine
- Standardise
- Sustain

After the comprehensive introduction of the 5S method in all work areas of production, the last layout changes have now been completed. In order to increase the level of maturity, 5S has now also been extended to floor space management.

At each work area, the storage areas for the new goods and the goods for further transport to the next process step have been marked. Furthermore, all storage areas of mobile equipment, e.g. transport trolleys, have been marked.

This results in an improvement in several ways:

- Increased transparency in the material flow enables fast deviation management Steigerung der Transparenz im Materialfluss ermöglicht ein schnelles Abweichungsmanagement
- Reduction of search times and thus focussing on the value-added process
- Increased standardisation leads to less workload for employees

News from Lean Management in Production
Optimisation of the assembly layout for new machines
Shorter delivery times, shorter product lifetimes and ongoing new developments, among other factors, are changing the demands on production and accordingly also on assembly. Assembly, as the clock generator of production, is the last step before delivery to the customer, which is why it plays a central role in the production concept. A short lead time, the highest quality and meeting the customer's deadline are just some of the challenges here.

On the basis of a value stream analysis, which showed the potential for assembly optimisation, a major lean project in the assembly of new machines is now nearing completion.
In addition to the usual box production, our decanter centrifuges can also be produced in flow production in the future.

To design this new concept, the current situation in assembly was first recorded and analysed. For this purpose, a time and path recording was carried out and evaluated for the entire assembly process. In addition, further planning data was collected and processed for a holistic view of the assembly concept. New assembly concepts were then developed, from which the three best concepts were selected with the help of the evaluated data. These were then analysed and evaluated with the help of a simulation study. For this aim, the models were set up according VDI (German engineers association) guidelines, experiments were defined and simulations were carried out. The analysis showed that the most ideal concept is flow assembly.

In the future, there will be a variable system in which we can switch between flow and box production depending on the order mix in the new machine production area.

We are proud to have developed a concept from a scientific elaboration with the expert knowledge of colleagues from the assembly department, which strives for cooperation and improvement across all departments.

Optimisations already made:

- Flow-oriented arrangement of the assembly bays
- Defined work packages per bay to increase the structure and standardisation of the assembly process
- More comfortable work for our assemblers: tools and machine parts are provided ➡ increase in added value
- Equipping the workstations with computers and monitors for processing drawings and parts lists -> ➡ paperless assembly
- Installation of a high-level office to generate picking and storage space
- Installation of a heavy-duty rack for balancing adapters with pull-outs on both sides for effort reduction
- Space-saving rail system for rotor transports to reduce handling steps
- Optimisation of the painting workstation with preceding or following painting steps ➡ flow and path optimisation

TWO NEW CENTRIFUGE TEST RIGS NOW ON THE ROAD FROM MSE HILLER

MSE Hiller has launched two new test and demonstration centrifuge rigs into the UK market.

The machines are at the opposite ends of the capacity spectrum, with one unit suitable for 1 – 6 m^3/h and the other at 30 - 60 m^3/h.

The smaller unit, known as 'Charlotte', is a compact stand-mounted unit measuring 3.9m x 1.3m x 2m. It houses a DP31-422 VA BD HILLER DecaPress centrifuge and all the necessary ancillary equipment, including:

- Feed pump
- P&P PDF1000 automatic liquid polymer make up and dosing system
- E+H flowmeters
- Pipework
- Chutes
- Electrical control panel
- Conveyor
- Stand

'Sophia' is the larger unit and is a trailer-mounted unit measuring 14m x 2.55m x 3.5m which houses a DP574 11012 FD HILLER DecaPress centrifuge. It houses all the necessary ancillary equipment, including:

- In-line macerator
- Feed pump
- P&P Polymix7000 polymer make up and dosing system
- E+H flowmeters
- Pipework
- Chutes
- Conveyor system
- Electrical control panel

The control panel on Sophia also boasts the brand new SEE-Control pro centrifuge controller which is the first in the UK offering faster processing speeds, a more user-friendly touchscreen interface, and increased communication capabilities.

Both test rigs are equipped with and connected to the MSE HILLER remote access and centrifuge monitoring system, allowing them to feedback operational performance and machine maintenance requirements to the MSE HILLER offices at Markham Vale in Chesterfield, Derbyshire.

The machines allow customers to take advantage of the opportunity to conduct process performance trials on their materials, at their site and confirm the operating costs, performance and potential savings during a "try before you buy" experience.

To discover more about Sophia or Charlotte or to book your trial contact the MSE Hiller sales team at: info@mandse.com.

EXPANSION OF PRODUCTION CAPACITIES AT HILLER
NEW WFL M50/2000 FOR PRODUCTION

Expansion of the WFL fleet in production.
HILLER GmbH has already been part of the Swiss Ferrum Group since 2018 and represents the competence centre for the development and production of decanter technology within the group. For this reason, the company continues to invest consistently in the modernisation of its manufacturing capabilities in Vilsbiburg.

At the end of the year, a brand new WFL M50 / 2000 is added to the CNC machine park. The decision for this machine tool, developed and built in Linz (Austria), is the continuous pursuit of the production strategy that Georg Hiller initiated in 2008 with the purchase of a WFL M120 / 5000 and later continued with a WFL M80 / 3000 in 2015. "We decided to invest in another WFL because we are absolutely convinced of the reliability, the high precision and the robust machine concept," explains Production Manager Stefan Brauner, "the higher price compared to other suppliers is justified by the advantages we can take advantage of due to the flexibility in terms of programmes, fixtures and, above all, operators."

With a max. turning diameter of 670 mm, a centre distance of 2 metres and 100 tool places for the driven tools, the M50 is the smallest machine in our WFL fleet to date. In the run-up to the investment, extensive analyses were carried out to determine which production parts would be used to capacity on this machine, and the size of the WFL was configured exactly according to the range of parts determined. Small additional functions, such as an automatic tool breakage control, should help to further increase the efficiency of our production. "This machine will be used primarily to produce smaller components, such as pillow blocks and gearbox parts, for which HILLER has been mostly dependent on subcontractors up to now," says Stefan Geiger from CAM Programming, who carried out the preceding analysis and design of the new machine together with Franz Wiesmayer.

Investment of 1.6 million euros in the Vilsbiburg site
The investment in the WFL M50 represents the largest single investment for HILLER GmbH in the current financial year. In total, over 1.6 million euros will again be invested in the Vilsbiburg site in 2022.

After the focus in production in recent years was on investing in processes as part of the introduction of lean management, it was now time to invest in machine technology again. In order to make room for the new WFL, the long-serving Gildemeister MD10S has to be taken out of production. Many HILLER employees associate this machine with fond memories of "the good old days".
Almost every employee who completed their training in production at HILLER has worked on this machine at some time. Built in 1982, the Gildemeister is by far the oldest CNC machine in our machine park and has only been used sporadically in recent years for simple work or individual parts. This machine represented a revolution in turning technology at HILLER at the beginning of the 80s and was exemplary for the region at that time.

We are looking forward to our new WFL M50 / 2000 and say *goodbye* to our old MD10S.

WHAT ACTUALLY BECAME OF... THE HILLER DECANTERS OF OUR EARLY BIRD DIRECT CUSTOMER SWTP WERTHEIM?

The Wertheim sewage treatment plant became one of the first HILLER customers in 1999, shortly after HILLER Direct Sales was founded, and bought a HILLER DecaPress DP37-422 with hydraulic drive at that time.
In the process, two ageing belt presses were dismantled and replaced by our decanting centrifuge of the latest design.
The plant was operated with a throughput of 10 m^3/h and delivered discharge values of approx. 29.5 % dry matter in the solids.

From the very beginning, the decanter's maintenance was entrusted to HILLER Service. All maintenance work over the years, including the replacement of original spare parts and planned factory repairs, was successfully carried out by HILLER in cooperation with SWTP Wertheim.

In 2004 and 2010, a factory overhaul of the rotor unit was carried out at HILLER's headquarters in Vilsbiburg, during which the hydraulic motor was professionally repaired. Until its decommissioning in 2017, the HILLER decanter at SWTP Wertheim successfully completed more than 40,000 operating hours with high performance.

In 2005, the plant was extended to cope with the increased volume of product to be processed. We were pleased to install and successfully commission a second DP37 at SWTP Wertheim. The new decanter was technically designed as a hybrid decanter based on the latest technology. This meant that it could be used both for sludge dewatering and for the new requirement of sludge thickening.

This plant was also included in HILLER's annual service planning immediately after installation. Regular service inspections were carried out in operation and in the dismantled state via the proactive maintenance management and worn spare parts were replaced on site.

Furthermore, a factory overhaul was carried out in 2014 at the headquarters in Vilsbiburg with wear reconditioning and balancing of the rotor unit to operating speed.

In 2017, the first decanter installed in 1999 was replaced with our technically advanced DP484 from our new HILLER

DecaBest series with highly effective four-shaft gearbox. Here, in addition to the HILLER decanter, the associated

plant technology was also supplied by HILLER and the conveying technology and pump technology were renewed in the course of the new decanter installation. A new control cabinet was supplied by our subsidiary SAT HILLER, which was then successfully commissioned including our high-performance SEE-Control device for HILLER gearbox/hydraulic drives.

The new DP484 is operated with a throughput of 20 m^3/h, which made it possible to reduce the daily operating time of the decanter plant. A dry substance content in the product discharge of approx. 31 % dry substance is achieved.

Since then, the second HILLER DP37 has been used exclusively for thickening. As this machine is also getting on in years, SWTP Wertheim is considering replacing this decanter senior with a new decanter based on current machine technology in the near future.

We at HILLER are very pleased that we can call SWTP Wertheim a loyal and highly satisfied HILLER customer since 1999, which has also expressed its confidence in our HILLER service and repair services over the years. As a competent partner for decanter technology, HILLER will be happy to continue to support SWTP Wertheim technologically and with our team in the future.

THE NEW MA5
MOBILE RENTAL UNIT

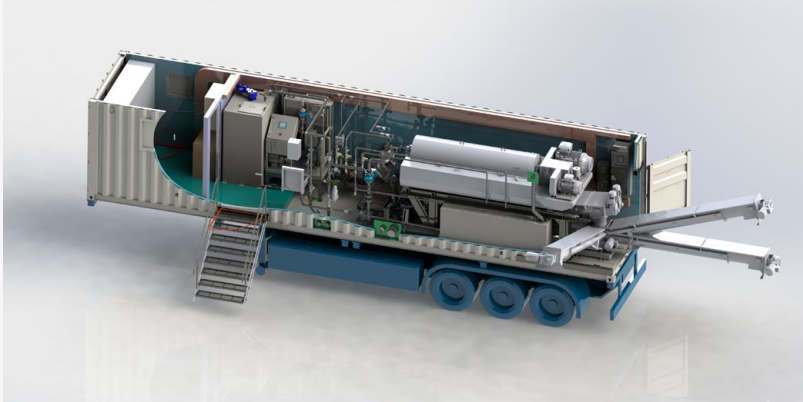
In April 2022, we were able to add another member to our broadly positioned mobile test and rental unit fleet.

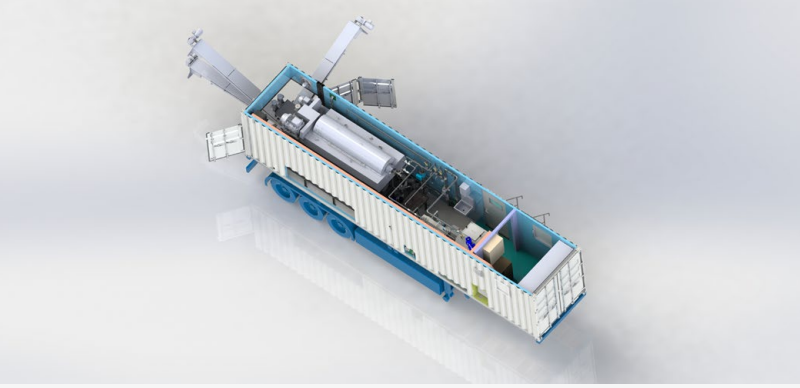
The MA5 is the second HILLER mobile unit with a DP574 decanter and is therefore ideally suited for rental applications for larger plants with high throughput rates.

Like our last mobile unit, the new MA5 has also been completely manufactured within the Ferrum Group.
From planning and approval to commissioning, everything was handled by the three companies HILLER GmbH, Spomasz Wronki Sp. Z o.o. and Ferrum AG.
The heart of the plant, the DP574 decanter, of course comes entirely from the HILLER GmbH production halls in Vilsbiburg.

The technical data of the new MA5 mobile unit:

- Turnkey mobile test unit on a mobile trailer
- DP574/FD in 40“ container
- Decanter control system: Hiller SEE-Control pro
- Control system of the entire plant: Siemens S7 1200
- Total weight including trailer: 27 tons
- Sludge throughput rate: up to 60 m^3/h
- Fully automatic polymer station with a input rate of up to 9000 l/h and up to 0.5% active substance with exclusive liquid polymer addition
- Integrated macerator to protect the system periphery
- Automatic freight and polymer adjustment through integrated solids measurement
- HILLER CentrateControl for the maximum degree of dewatering by the CentrateControl HCC camera
- Easy control and operation for the customer
- After commissioning by a HILLER test or service technician the plant runs fully automatically and can be operated by the customer





COMPACT AND READY FOR IMMEDIATE USE
HILLER EXPANDS THE DECASMART SERIES

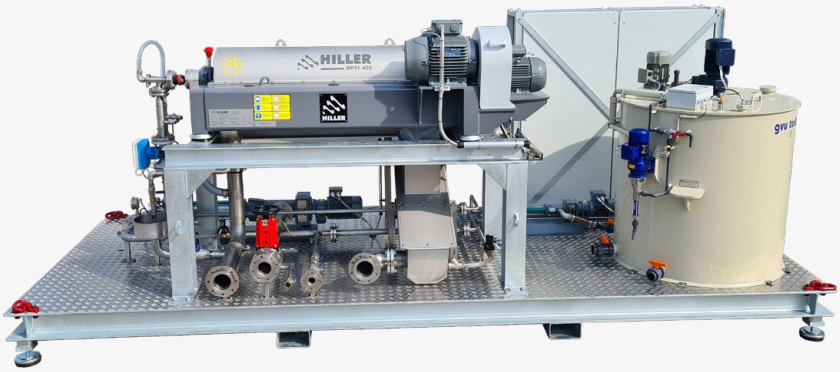
As a compact unit on a mobile platform, the HILLER DecaSmart is characterised by its immediate readiness for use for various drainage tasks. The ready-to-use pre-assembled decanter can be easily integrated into any existing system with plug & play. The DecaSmart can be used for a wide range of solid-liquid separation tasks, including industrial wastewater treatment plants.

In order to be able to offer an optimal solution for different flow rates, a DecaSmart with the decanter size DP31 is now available in addition to the current HILLER DecaSmart DP45N.

The new HILLER DecaSmart DP31 is suitable for throughputs of up to 5 m^3/h and is therefore ideally suited for use on smaller wastewater treatment plants.

In terms of process technology, HILLER's DecaSmart series offers a separation solution that is as powerful and economical as ever, with a high dry matter content and optimum centrate separation efficiency in the result.

The most significant advantages of the compact plant are, among other things, the quick availability at the customer's site, the simple plug & play integration into the running operation as well as the attractive price/performance ratio.



HILLER DECANTERS IN OPERATION 1,600 METRES UNDERGROUND

In the middle of the South African Bushveld, two HILLER DP574 decanters are operating 1,600 metres below surface to dewater so-called „Underground Mud", which is the sludge of thickened mining water occurring in the underground platinum mining process.

The cleared centrate is pumped to the surface in a two-stage process. The dewatered solids fall onto a conveyor belt, on which the mined platinum ore is also transported, and is transferred to the surface by a freight lift where further platinum extraction processes take place.

Together with our South African partner UDEC (Pty) Ltd. we succeeded in completing this turnkey project, which was demanding in terms of process and installation technology. The two decanters used in this project are characterised by their special design features as extremely robust and wear-resistant machines, which can effectively dewater abrasive underground mud with a high solids load.

In addition, it was also possible to respond to a special customer request by implementing a so-called fully hydraulic solution including both the scroll drive and the main drive equipped with hydraulic motors and a corresponding hydraulic power unit.

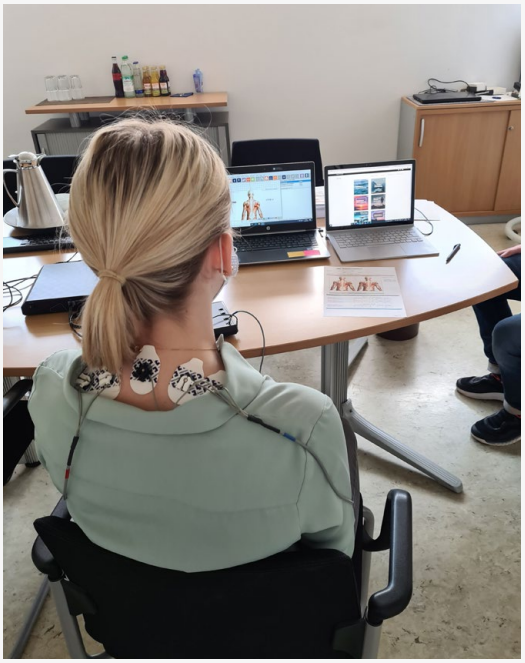
HILLER IN BALANCE
THE 1ST HILLER HEALTH DAY

Under the motto "HILLER in Balance", the 1st HILLER Health Day took place on 5th May.
At various stations in the building, HILLER employees were able to have a variety of health checks carried out and take part in workshops.

Among other things, a balance check, a shoulder-neck screening and workshops on the topics of resilience and relaxation techniques were offered. In the shoulder-neck screening, the shoulder-neck muscles were analysed using surface electrodes. Here, functional deficits, muscular imbalances and states of tension are displayed with the help of a computer. This is followed by individual counselling for resolution and prevention.

In the resilience workshop, the participants were introduced to various techniques to learn an attitude or competence that makes them more resistant to challenges and crises and helps them to cope with them better.
After successfully completing the health day, each employee can take part in a 6-week online course on a health topic of their choice.

For HILLER, health promotion for its employees has been a focus for many years. We are proud to be able to offer our employees a wide range of services outside of the health day.



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