

# CINET

Professional Textile Care

## BUILDING A GLOBAL NETWORK

# CINET Innovations & New Technologies



## Innovations at Clean Show 2017

[www.cinet-online.com](http://www.cinet-online.com)

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# 1. Clean Show 2017

The Clean Show 2017 marks 40 years since The World Educational Congress for Laundering and Dry-cleaning debuted as the premier event for textile care. Industry professionals from around the world gather to learn and discover the newest and most innovative technologies, products, and systems to service business to business and business to consumer clients laundries. The Clean Show is the largest textile care exposition in the world that features working equipment and industry education.

Clean 2017 celebrated its 40th anniversary in Las Vegas June 5-8. It is "Where the Industry Comes Together" to see the working equipment and products of exhibitors offering everything the industry has to offer. For the fourth time the Clean Show was organised in Las Vegas. Over 12,500 visitors came to see the trade show, from over 96 countries outside the United States of America.

For five days, 481 exhibitors from all over the world presented their solutions and innovations for laundries, dry cleaners and textile service providers. The exhibit space was 30 percent increased comparing with last times Clean show till 21,089 square meters, the manufacturers presented a more extensive range of products and services, especially in the textiles and IT product groups.



*Opening ceremony Clean Show 2017*

The main subject of the exhibitors' presentations was Industry 4.0, data handling and sustainable processes for laundry and dry cleaning companies. Developments in data processing systems to track the textile products, client information and productivity are driving the industry to a sustainable smart laundry of the future.



*Clean Show 2017*

## 2. Innovations in Textile Cleaning

The recent years many new cleaning technologies and solvents have been introduced to the textile cleaning market. Due to changing dressing habits, new textile materials, sustainability profiles, legislation, developments and innovations are important to enable new business cases. These developments and innovations result in optimised performances. Especially taking in consideration that the dressing habits, textile materials and type of stains are changing in the textile cleaning industry.

### 2.1 New solvents

Many chemical suppliers have developed their own solvent system. The recent introduced solvents are Ktex, Arcaclean, HiGlo, and Intense. Alternative solvents are available for cleaners besides the more established solvents like Perchloroethylene (PERC), Hydrocarbon solvent (HCS), Solvon K4 and GreenEarth. Most of the new solvent systems are based on hydrocarbons and modified alcohols, also known as glycol ethers, in different formulations. For the textile cleaner, this increased availability of solvents on the market makes it difficult to select the optimal cleaning system for their use.

The CINET benchmark studies Solvetex I, II, III, IV and V are giving an overview of the properties and performances evaluation of the different (new) solvents. Beside the solvents, alternative technologies are developed for professional textile cleaning like wet cleaning, evaluated in the Solvetex IV study.



CINET Benchmark study brochures



CINET Benchmark study brochures

#### 2.1.1 SENSENE

During the Clean Show 2017, the American public has acquainted SENSENE. The new solvent of SAFECEM and DOW was first presented on Texcare 2016 in Germany but now for the first time also in the USA.

SENSENE is based on a modified alcohol formulation which is considered to be non-persistent, non-bioaccumulating and non-toxic and therefore offers an environmentally responsible way of dry cleaning. The solvent is suitable for regular multisolvent or HCS machines, often referred to machines complying with class A III solvents.

The cleaning performance of SENSENE has been compared with PERC and HCS for different stains on wool, cotton and polyester fabric in the Solvetex V Study. The evaluated stains are a variety of oil, fat, and water based stains like lanoline, sebum, vegetable oil, milk, lipstick, motor oil and mineral oil. The overall cleaning performance of SENSENE is better compared to PERC and HCS. Especially on polyester SENSENE has a very good cleaning performance.

#### 2.1.2. Intense

In an economy with constantly rising costs for capacity of work and energy efficiency, the quest for innovation and future orientation becomes louder. In the form of product solutions, SEITZ addressed problems like the regulation of the environmental protection policy and efficiency.

## 2.2 Dry cleaning equipment

Intense is a hydrocarbon-based solvent already met with a great response at the Clean Show in Atlanta back in 2015. With its introduction two years ago, SEITZ set a milestone pointing in the direction of alternative solvents. In comparison with conventional solvents, Intense has an increased cleaning effect, which saves time and costs in the pre- and post-spotting processes. Furthermore, Intense is able to be used with any multisolvent cleaning machine and would easily replace its predecessor solvent.

### 2.1.3 SOLVON K4

SYSTEMK4 is an acknowledged alternative solvent since it was introduced in 2011 and used in many dry cleaning shops all over the world. That doesn't mean that Kreussler sits back, on the contrary, they have developed a new bio-based solvent formula for SOLVON K4. It offers the same performance and safety, but also creative marketing approaches and increased opportunities for eco-labeling and certifications. The new version of the K4 solvent is chemically identical to the original; the only difference is the source of the carbon. In this case, Kreussler replaced the previous carbon source (crude oil) with carbon from corn.

The new, bio-based formulation is the first and only solvent produced in part from plant-based renewable resources. This will help against the negative opinions consumers have towards the industry because of human health risks associated with the solvents used in the past. Kreussler expects to offer the new, bio-based formulation for sale in the US market near the end of 2017.

More information about SOLVON K4 on [www.kreussler-chemie.com](http://www.kreussler-chemie.com)

## 2.2 Dry cleaning equipment

Dry cleaning machines for alternative solvents have been optimised for new alternative solvents because of different solvent properties. Dry cleaning manufacturer have presented their latest updates for multisolvent machine that can be used for SENSENE and other alternative solvents.

SENSENE has a very high Kauri-butanol value (KB-value). A high KB-value is often interpreted as good cleaning performance but it tells you something about the ability

to dissolve. A high KB-value can have a downside of dissolving textile paints and colour bleeding. Dry cleaning suppliers have adjusted their machines to prevent this by using the solvent at a lower temperature.

### Control applications

In the time of digital screens and online applications, the new dry cleaning machines are equipped with touch screens, apps and remote control applications. BÖWE presented the Siemens touch screen control that included all the documentation, logs all information on alarms, maintenance, programs and energy consumption. With the connected app the machine can be controlled and even operated. Also Renzazzi included this feature to their machines, although without remote control function to ensure safety. With the I-Connect of Union it is possible to verify machine settings on a remote computer.

Not only dry cleaning machinery is equipped with online application also finishing machines. TREVIL showed their TreviTouch which is a control panel with cycle control, programming functionalities and diagnostics.

This diagnostics program is an error detection program which is always active to warn the user and provide maintenance notifications.



Touch screen control BÖWE P18 machine



## 2.2 Dry cleaning equipment

### 2.2.1 Renzacci

Renzacci, the Italian dry cleaning supplier has presented their multisolvent machine ready for SENSENE at the Clean Show 2017. The Excellence 2.0 Multisolvent machine combines high cleaning quality with user friendliness and reduced maintenance and operating costs.

The Excellent 2.0 can work with a wide range of different solvents, including Isoparaffin or Silicone based Hydrocarbon solvents, Green Earth, System K4 and SENSENE.

The Excellence 2.0 includes an couple of innovative features like innovating filtering system with dynamic micro-purification and tanks with self-cleaning technology.

With the fast drying multi-combined air flow the energy consumption of the machine is very low and good for the environment.



*Renzacci's multisolvent for Excellence 2.0 adapted for SENSENE*

The i-Brain touch control computer is the new standard for Renzacci's dry cleaning machines and the intelligent core of this machine. The control panel allows to manage, monitor and control the unit and can guide operators, in real time through different programmes reducing the possibility of faults and loss of production time.

The large multi graphic digital 3D colour display is easy to use, ultra-resistant and has a high resolution. With the help of the exclusive automatically check dual drive the i-Brain will also self-diagnose and trouble shoot any possible maintenance issues.

### 2.2.2 Union

Union presented their new dry-cleaning system resigned also for solvent SENSENE. The new series of the XPRESS dry cleaning machine is designed with a new advanced technology dialog screen. This tells the operator all information on the running program and the status of machine components. The computer incorporates a maintenance schedule which will remind the operator to carry out maintenance for top cleaning results.

But the machine technology is renewed as well. The XPRESS series are on request, fitted with an innovative temperature regulating system. This enables the machine to heat cleaning solvent or with the Artic Line system, to lower the solvent temperature. This is a useful function with certain solvents and delicate fabrics.

The Union machines can also be fitted with a I-connect system. This innovative system makes it possible to verify the status of the machine, download the machine log from up to 365 days, upload a memory set of your programs and settings to remote machine and a lot more.

On the Clean Show 2017, Union showed their Cloud technology. The Cloud steam cleaning machine uses no solvent at all, it does require some water and laundry based detergent. The process uses 5-6 litres of water and steam per cleaning cycle and the approximately 50 litres of water required for the cooling system. Garments are treated inside the drum under a controlled atmosphere environment, with a low oxygen content in order to avoid oxidation of colours. Using special technology a

## 2.2 Dry cleaning equipment



Mr. N. Rappini and Gabriele Cuppini at the Union stand

cloud of low temperature and low pressure steam passes through garments in order to allow the delicate treatment of colours, while still cleaning garments effectively. At the end of the cycle the garments come out dry and ready to be hung up or ironed.

For more information on the Union machines, check their website [www.uniondc.com](http://www.uniondc.com)

### 2.2.3 BÖWE

BÖWE presented its Black Forest Edition multisolvent machine at the Clean Show 2017 to the American market. The BÖWE Multisolvent line can be used with every alternative solvent like Higlo, Intense, Genx, SENSENE and Hydrocarbons.

The premium machine is optimised with some maintenance features. One of the new maintenance features is the cataphoretic coating which is not only inside the machine but also outside, ensuring long high protection against chemical agents corrosion and

oxidation. It prevents lint at the flange, back plate, cooler and fan in the machine. This results in less maintenance, energy consumption and solvent usage.

But the BÖWE Black Forest Edition has more to offer. The premium machine has glass bead blasted stainless steel components such as air duct, water separator, distillation, button trap and more. To separate water in the best way every machine is equipped with a multistage distillation and 2 water separators. Furthermore the water separators are self-cleaning with automatic rinsing program.

More information about BÖWE and their machine on [www.bowe-germany.de](http://www.bowe-germany.de)



The BÖWE stand on the Clean Show with the BÖWE Black Forest Edition M66

## 2.3 Wet cleaning



*Primus Softwash® Wetcleaning System*

In recent years the developments of wet cleaning systems has been of the major developments in textile cleaning. Due to changing legislation in different countries, the development of textile materials, the different needs of customers and new wet cleaning technologies, wet cleaning is more and more used.

Wet cleaning systems are based on water as solvent in combination with suitable chemicals, reduced mechanical action, specialized equipment and specific programs. Wet cleaning is defined as mild professional aqueous cleaning of delicate and non-washable textiles, which is to be distinguished from washing or laundry.

The second generation of wet cleaning systems has been presented on Clean Show 2017. Traditional wet cleaning systems has been changed for complete dry-to-dry systems, containing a wet cleaning machine, detergents and a special wet cleaning dryer.

This means that the garments are completely dried to their normal residual moisture content in the dryer. Total solutions in professional wet cleaning are presented at the Clean Show 2017 by Lagoon, Softwash, Poseidon and Lanadol.

### 2.3.1 Softwash®

Softwash® is a complete dry-to-dry professional wet cleaning system from Primus and Alliance Laundry Systems. With a special Softwash® stand on the Clean Show 2017 they showed their complete wet cleaning system including wet cleaning machine, advanced dryer and finishing equipment. Dedicated pre-set wet cleaning and drying programs make sure that delicate garments are treated in an optimum way without damaging the fibres.

The new wet cleaning process usages less water, energy and detergent than regular wet cleaning technologies and offers a one hour service.

Find the details about Softwash®  
**[www.primussoftwash.com](http://www.primussoftwash.com)**

### 2.3.2 Electrolux Lagoon Advanced Care®

Electrolux presented the Lagoon Advanced Care. This system uses new developed chemistry and is drum design. Electrolux uses their new ProV'tex function to suck the water in a vortex though the garment. The created mechanical action is highly effective but gentle for delicate materials and replaces the drum rotation. With this new function the loading factor of the machine can be increased till 80 percent.



*Electrolux: Lagoon Advanced Care Wetcleaning Machine*

Another benefit of this new technology is that the drum of the wet cleaning machine doesn't necessary have to be big to reduce the mechanical action so a new smaller wet cleaning machine has been released.

The finishing time is reduced by new detergents and drying process. When the garments come out of the wet cleaning dryer, they look the same a garments out of a dry cleaning machine.



## 2.3 Wet cleaning

With the new Lagoon system a complete dry-to-dry process can be done in less than one hour. For more details check [www.professional.electrolux.com](http://www.professional.electrolux.com)

### 2.3.3 Poseidon

Poseidon Textile Care Systems delivers a total wet cleaning care system of dedicated wet cleaning



*Poseidon Textile Care Systems stand on Clean Show 2017 with wet cleaning machine and dryer*

machines and dryers. Poseidon offers pre-set and customizable program options. Nearly every variable of the wet cleaning process is programmable, including water temperature and level; number of baths, rinses and pre-washes; automatic chemical injection; wash rotation speed and duration (including zero rotation); extract speed; timed chemical dosing by the second; and bath cool-down. Poseidon controlled wet cleaning Machines feature 12 standard chemical injection signals with programmable timed dosing and flush flexibility. Chemicals are diluted with water before being introduced into the washer drum – preventing direct chemical-to-linen contact that can result in linen damage.

Poseidon claims to use significantly less water than other wet cleaning systems. Less water used results in lower water-heating costs and reduced chemical usage. Poseidon wet cleaning machines use their technology called AquaFall™, which lowers water usage. With this technology water enters the drum through holes in the drum lifters. As the drum turns, lifters release water from above, resulting in higher load saturation, chemical penetration and rinsing.

Poseidon Dryers are engineered to safely and quickly dry wet cleaned items with no shrinkage or wrinkling. They are highly programmable, efficient and have a moisture sensing technology, eliminating over-drying, shrinkage, and wrinkling. The wet cleaned items do not have to be hang dried but can be fully dried before finishing.

More information about the company and machinery on [www.poseidonwetcleaning.com](http://www.poseidonwetcleaning.com)

### 2.3.4 Lanadol

The LANADOL wet cleaning system by Miele-Kreussler is the founder of the professional wet cleaning systems, introduced already 25 years ago. New products are introduced by Miele and Kreussler at the Clean Show to the USA market due to the fact that fabrics are increasingly washable at low temperatures, processing and the requirements regarding both processes and products are be subject to change. In Miele Professional washing machines, the new LANADOL DRY process in combination with the new product LANADOL X-press is presented.



*The Kreussler LANADOL stand at Clean Show 2017 in Las Vegas*

## 2.3 Wet cleaning

This results in better quality despite much shorter programme cycles, which also significantly improve the productivity.

A new detergent called LANADOL X-PRESS brings together the safety of Kreussler's original LANADOL range with high cleaning performance. Utilizing broad and powerful enzymes, cold water active surfactants, colour and surface protection. With the streamlined application library for wet cleaning detergents of Kreussler all wet cleaning garments can be cleaned by almost completely eliminating pre-spotting and garments are ready to press in less than one hour.

More information about LANADOL on [www.kreussler-chemie.com](http://www.kreussler-chemie.com)

### 2.3.5 SEITZ

SEITZ introduced the Triton-System a few years ago. Enabling the treatment of most diversified articles (like dresses, suits, coats, etc.) made from natural and synthetic fibres and highly delicate material as known from wool and silk. It prevents damage of various trimmings (which could be made from the most various materials) and appliqués like e.g. pearls or sequins which might not be resistant to cleaning in solvent.

The wet cleaning system SEITZ offers exist out of a wide range of dedicated wet cleaning products that make sure that the textiles are professionally cared. A liquid special detergent for delicate textiles called Viva Care, provides gentle care of textiles made from wool, silk as well as viscose and is especially caring in removal of very high soiling. In the wet-cleaning process, sensitive albuminoids and cellulosic fibres are best protected from felting and shrinkage. The cleaning components of this product are active already from lowest temperatures – even cold.

Viva Top is a concentrated liquid retexturing/sizing for wet-cleaning which restores the shape of treated textiles. By application of this finishing agent, the textile fibres will become protected such that soil and stain substances are prevented from penetrating too deeply into the fibre. In the process of drying, Viva Top safely protects silk and wool from felting and alleviates ironing after drying.

More information on wet cleaning and other products of SEITZ on [www.seitz24.com](http://www.seitz24.com)



*Team Seitz at the Clean Show 2017*

## 2.4 Finishing equipment

Finishing is the most time consuming step in the textile cleaning process but it is a quality determining step as well. Good finishing enables the textile cleaner to deliver the garments as new to the customer.

Nowadays it is difficult to find skilled finishing or willing to learn the finishing technology. Therefore the suppliers are focussing on easy but efficient finishing equipment which is automated and offers a consistent quality. In this way the professional cleaner is assured of a certain quality of finishing.

### 2.4.1 COLMAC

Labour costs is one of the major issues in the dry cleaning shops of today. Reducing labour cost by increasing the productivity is one of the solutions. COLMAC has introduced a triple buck shirt press, 3CPU, which is able to process three shirts by one operator to increase productivity. This can increase the productivity of finishing up to 240 shirts per hour. There is also a long buck press designed for pressing doctor's coats, nurses pull overs and smocks called the Triple Connie Turbo II.

The shirt press is engineered to press the full shirt body and steam-air finish the sleeves, with automatic unloading of the hangered garment to a slick rail. The pressing buck usages vacuum to held the shirt front in place and is avoiding using clamps and marks they leave.



## 2.4 Finishing equipment

Energy efficiency of the finishing equipment is increased by the innovative features like, a re-circulation of hot air and an energy saving pause mode. The re-circulation of hot air was developed because a shirt finisher releases a lot of energy in the form of steam and hot air. This hot air rises to the ceiling and heats up the room. The indoor climate changes, and the operator is constantly exposed to hot air.

Find their finishing machines and more on  
[www.colmacind.com](http://www.colmacind.com)



*The Triple Connie Turbo II*

### 2.4.2 TREVIL

A real eye-catcher for the audience of Clean is the Pantastar of TREVIL. This machine is the first automatic machine able to completely finish a pair of trousers, ironing the top just like a topper and the leg just like a press.

Because this machine operates almost fully automatic, it doesn't require an experienced presser to run. A unexperienced presser can already finish 40 pants in one hour on this machine after one day and an experienced presser even more.

First the pants is placed in the machine, positioning the pants in a round shape, just like a topper. The legs of the pants are clamped. When the machine is started, crease is removed by steam and pressure and a steam injection gun can be used to remove the former pleats in the pants.

After the first step the machine automatically prepares the trousers folded in a right position, ready for the pleats to be pressed by two press bucks on each side of the pants. The position of the pleats can be adjusted to the market preferences.

The Pandastar is using 50% less space as a conventional pants topper and a leg press will do and is therefore efficient.

More information on TREVIL can be found  
[www.trevil.com](http://www.trevil.com)



*The Pandastar 5354 pants finishing machine of TREVIL*



## 2.5 Laundry On Demand



*Platform as a service*

## 2.5 Laundry On Demand

The amount of digital innovation is doubling once every two years (Moore's law). This innovation has resulted in the rapid development of E-commerce worldwide. For the PTC industry the digitalization has resulted in a new business model for professional laundry & dry cleaning businesses called 'Laundry on Demand'. The quest for offering a truly convenient service seems to have found an answer. Customers can order a cleaning service for any of their garments at a place and time of their choosing. The show in Las Vegas showed several of the technology companies exhibiting which is definitely a new development for PTC.

### 2.5.1 Laundrapp

This UK based start-up entered the market in at the start of 2015. Laundrapp is an app that allows people in the UK (currently present in 100+ cities) to have their dirty laundry collected, washed and delivered whenever and wherever they want. Basically it is a technology company that has built an advanced application for taking in orders, managing the fleet & its drivers, managing the support team for the service and set up large scale marketing campaigns. The actual cleaning of textiles is outsourced to a dry cleaning partner.

To take care of logistics Laundrapp and its cleaning partners work with their own fleet of drivers which is managed through two software applications, Laundrapp Drive & Laundrapp Pulse. Pulse is the logistics brain of the operation, constantly 'crunching the numbers' for the most efficient routes and Drive is the app for drivers that tells them where to go (and if they are on time). This results in the fleet of drivers receiving step-by-step instructions for collections and deliveries. The hidden benefit of the Drive platform is the real-time tracking (like Uber) of vehicles for customers as well as management. That is a huge benefit as exact calculations on pick-up and delivery timing is constantly provided. Drivers get automatically rewarded when they meet performance targets (think of timing, number of orders, ....).

Also, the platform is built in functionalities of advanced fleet utilisation and order clustering processes. An example: when an order (minimum 15 pounds, free collection and delivery) is placed by a customer and a driver is coincidentally within a certain radius of that location the customer asked if he or she would like to have the pick-up straight away. This has shown increase in efficiency and so cost-effectiveness. Furthermore the drivers are trained on regular basis to improve customer satisfaction and to gather essential customer feedback.

Check their website on [www.poweredbylaundrapp.com](http://www.poweredbylaundrapp.com)



*Laundrapp at Clean 2017*

## 2.5 Laundry On Demand

### 2.5.2 DRYV

DRYV is an on-demand dry-cleaning and laundry service available in Chicago, United States of America, through a mobile application. With their remarkable pink colours they got a lot attention for their on-demand application. DRYV offers also their services to rental apartments. Drivers can come directly to the door, or leave your clean clothes with the door staff.



### 2.5.3 WashClubTrak

The concept of WashClubTrak originated with WashClub NYC, which transformed itself from a neighbourhood laundromat into a 50.000 customer business of on-demand pick-up and delivery service. WashclubTrak offers licenses (white label and as the same brand) to partners that can use the technology in their region. It is specifically built for the industry and includes a responsive eCommerce website, logistics software and mobile applications. Tried and tested, this online tool helps to utilize the washing capacity to its fullest. Currently over 50 companies in the

United States and Europe are working with the app, mostly in the USA. For more information [www.washclubtrak.com](http://www.washclubtrak.com)

### 2.5.4 Droplocker

The Drop Locker platform was built from the ground-up to support locker based delivery. This platform includes the organization of the back-end operation all the way to an app for customers to place orders. Recently also the technology for on demand services @home was introduced in the app. Licensees can very flexibly choose what part of the technology they wish to implement. This company has already many licensees across the globe that work with the technology.

### 2.5.5 Starchup

This tech company that offers local dry cleaning businesses a platform for digital ordering and route management. Starchup targets dry cleaners, laundries and launderettes of any size. These companies take a subscription on the software and in return get their own app based on the standardized software.

There are partnership packages that can be chosen building up in service levels and extra functionalities like: web ordering, customer app, engagement emails/text, campaign management, branded website, POS integration, custom feature development, number of Drivers.

Furthermore the app provides route optimization, marketing consultation, customer newsletter, driver app, customer CRM, integrated coupons, order processing, reports and support.

#### See How it Works in 5 Steps

WashClubTrak is easy for operators and their customers to use. Remember, WashClubTrak was built by operators, for operators. Unlike our competitors, which are causing market saturation, WashClubTrak puts a lot of emphasis on the operator, and helping to grow their business.



How WashClubTrak works

## 3. Innovations in Textile Service

Industrial laundries have to work faster and more economically through the highly competitive market. This makes it essential to work efficient with resources such as energy, chemicals, water and labour. This is even further developed in the principles of industry 4.0. Referring to the next step in industrial revolution, which started with mechanisation, mass production, ICT & automation towards the cyber physical systems of industry 4.0.

Industry 4.0 requires physical automated machines, Internet of Things and Information Technology. In the laundry, there should be no limit to human interference between machines, equipment and systems. More and more machines are automated in new machine innovations. The digital interaction between machines is essential and called machine-to-machine communication. Second is the need of information and data. Information Technology is the use of computers, storage servers, networks and other physical devices, infrastructure and processes to create, process, store, secure and exchange all types of electronic data. This data could be either received from laundry processes or consumer data.

And the last requirement is that not only people but also machines are connected to the web. All machines and staff of the laundry need to be in contact with each other through an IP address so they can be accessed and the data of the laundry process can directly be assessed by other machines or staff.

On the Clean Show 2017 you see that a lot of suppliers have focussed on data systems for the users to track your laundry process and use the data in an efficient way.

### 3.1 Data handling systems

#### 3.1.1 Kannegiesser ETECH

Since Kannegiesser USA has merged with E-Tech to form a new company, Kannegiesser ETECH, it was clear that this company was focussing on bringing completely integrated automated equipment solutions for laundry operators. One of the results of this merge is the new launched fifth version of the eVue Laundry Software.

The eVue is a software systems aimed to make your operation faster, smarter, more efficient, and more productive. When working efficient, all the data from in the laundry process, customers etc needs to be combined into one system. The eVue software combines material handling control, plant production management, and labour tracking capabilities.

With this data laundry managers are able to optimize processes, anticipate problems, and make informed decisions.

The eVue software is composed of three parts; control, metrics and labour. In the control part the operator has an overview of the laundry process, problems and all linen in the laundry when tags are used. If one enters the name of a client, the system tells you where the linen exactly is in the process. Also the maintenance records can be saved to keep all data together and linked.

The labour part of the system makes sure that every staff member can log in on every machine. The machine tracks the productivity of the employees and encourages them to do better with reward system. Also the employees can easily assess the maintenance team to ask for help or report.





## 3.2 Equipment for Industry 4.0



The eVue 5 process touch screen

The eVue software is web based and can there for not only be assessed on computers, but also on laptops, smartphones and tablets.

For more information check the website of E-tech;  
**[www. Etechsystems.com](http://www.Etechsystems.com)**



Ecolab stand on Clean Show 2017 with enVision™

### 3.1.2 Ecolab enVision™

Ecolab focuses on process management and efficiency. With enVision™360 Process Intelligence the operator has total control and real insight in his process. The software integrates the sensors and meters of the laundry with their chemical dispensers and system to gather actual data in water, energy and chemical usage, real time. When machines do not reach their normal productivity the operator can receive alarms and notifications via email or text messages to react directly. This data systems helps with true business decisions with insight of the laundry process.

## 3.2 Equipment for Industry 4.0

### 3.2.1 Datamars



Datamars newest UHF-RFID technology 301 & 401

The enabling technology for the smart laundry is the UHF-RFID technology. The RFID chips and antennas have become more reliable and more accurate. Also the decreasing costs of these chips making the chips available for multiple applications in the textile service industry.

On Clean 2017 Datamars showed their new RFID-chip Laundrychip 401, which has an incredibly small size. The chip has lost 50% thickness (1.3 mm thick) and the width is reduced by 33% (10 mm wide), which makes this chip usable for flatwork and seams.

## 3.2 Equipment for Industry 4.0

This new UHF LaundryChip delivers read ranges up to six meters without requiring a direct line of sight and is developed for high-volume bulk read application up to 2.000 pieces in one time. These soft, flexible and thin tags can be applied quickly and easily in multiple ways - sewn, heat-sealed or pouched - according to your wash process needs.

The LaundryChips are specifically designed to meet the rigors of high volume, high pressure wash workflows to help extend the life of your assets and have been tested in real-world laundries for over 200 cycles to ensure guaranteed tag performance and endurance.

This next generation Datamars LaundryChips™ for the textile service markets is fully ISO 18000-6C compliant. The chip is MR conditional which means that the chips can be used in a MRI environment without any problems.

Find the newest chips on the website of Datamars;  
**[www.datamars.com](http://www.datamars.com)**

### 3.2.2 Chicago Dryer Company



Chicago introduced their newest innovation; the ATM² Automatic Towel Machine. This machine is the world's first automatic washcloth separator/stacker. This machine doesn't need an operator to hand fold towel or wash cloths. The machine picks automatically tumble-dried towels from an hopper, folds them and stacks them automatically on a predetermined height.

More details can be found on **[www.chidry.com](http://www.chidry.com)**

*Chicago's ATM² Automatic Towel Machine at Clean 2017*

### 3.2.3 Lapauw



*The Lapauw IronMAX gas heated ironer*

At the Clean Show 2017 Lapauw announced that they will enter the market of tunnel washers. The first continuous batch washer system will be placed before the end of 2017. As Lapauw wants to offer complete laundry solutions, the tunnel washer was clearly missing in their product range. The new tunnel washers will become available with capacities of 35, 50, 70 and 100 kilogram and will be shown on Expo Detergo in Milan 2018.

But Lapauw showed some real innovation on the Clean Show as well. Despite all the automation in today's laundries, manual labour still is an important factor, as personnel takes up from 30 to 60% of the total cost of the laundry. Lapauw implemented ergonomics in machine design to enhance comfort, get the best out of your work force and ultimately increase productivity.

This resulted in a new version of the IronMAX and IronPRO equipped with new control panels which has shown to reduce errors.

The new IronMAX is the next generation of the DUO and TRIO gas-heated ironers. The IronMAX contains new innovative features like a new chest design to make a larger ironing surface available and a parallel oil flow pattern for a better heat distribution result in a ironer with the highest efficiency in the field.



## 3.2 Equipment for Industry 4.0

The new IronMAX is also designed for easy maintenance by easy removable access panels on strategic, maintenance sensitive locations to enhance the work comfort for the maintenance crew.

Lapauw has expanded the product range of the IronPRO with lower capacities of 500, 600 and 800 mm roll diameter. With its small diameter line, Lapauw is bringing the known technology like the flexible chest to the OPL and low capacity flatwork segment.

Last but not least is the new towel folder, which is able to automatically sorts three different sizes of products by length and folds them according to the selected program into three different piles. This new folders adapts the philosophy of Industry 4.0 with automation and smart machines that communicate with the system.

More information on the Lapauw equipment can be found on: [www.lapauw-international.com](http://www.lapauw-international.com)

### 3.2.4 JENSEN

JENSEN presented almost there complete laundry solution at the Clean Show 2017, under which some new interesting innovations. Overall the JENSEN machine are equipped with productivity monitoring systems to not only track the data of employees but also encourage them.



Jensen Borrier Washer JBW

We start from the first step in de laundry process, sorting. The new Ergonomic Multi-Sort platform is the engineered solution for efficient sorting for mid to high volume laundries. Together with the European Work Environment Authorities, this completely redesigned sorting station increases the productivity by reducing standing posture fatigue and arm to body angle. A healthy and happy operator is an efficient operator. There a quite a few costs related to injuries at work like compensation payments, medical expenses and the increase in insurance fee, and indirect costs that may not always be properly calculated and considered. The recruiting and replacement costs for instance, the lost productivity and the lower employee morale.

In the washroom section is the new JBW barrier washer extractor a world premiere in Las Vegas. The new barrier washer extractor is now equipped with a data monitoring systems called Hygiene Monitoring Software System (HMSS) which tracks the process parameters. This new feature fits perfectly new with the trend of tracking data and using it also as an added value to your customer. The barrier washer ensures a reliable protection from spreading germs and bacteria and needs to be installed into the wall, which provides the loading of the linen on the soil side and unloading on the clean side.

Another new machine is the DT 140 Plus Dryer. This dryer is specially developed for the American laundry market and made in the USA itself. The new technology on this dryer reduces the energy consumption by 10% higher water evaporation results in short drying cycles.

The next section is the new innovated finishing equipment of JENSEN. The New Jenroll Hybrid ironer was presented for the first time to the American customers. This ironer will leave no tape marks at a speed of up to 50 meter/ per minute. This allows the laundry to use it for fast ironing of flatwork for the healthcare sector, or for top-quality ironing for the hospitality sector.

The Jenroll Hybrid is a space-saving solution combining a flexible chest section of 1200 mm/48" diameter and a calendar section comprising 3 rolls of 800 mm/32" diameter, ensuring top-quality ironing in the first section, followed by a final drying of the linen in the calendar section without leaving any tape marks in the linen.



## 3.2 Equipment for Industry 4.0



*The Jenmat Roller offers new perspectives for the mat laundry with automatically rolling, sorting and storing of mats*

The Jenroll Hybrid concept is unique in the market, and presented to the American customers for the first time at Clean Show 2017.

Following their promise to offer a complete laundry solution, JENSEN now further expands its product offering with finishing equipment for mats. The Jenmat SpeedRoller is capable of rolling up to 500 mats per hour, and automates the mat rolling process at an average speed of 320 mats per hour. The machine is designed in such a way to support the operator feeding the usually quite heavy mats into the roller. The roller is even able to automatically sort the mats according to their size in width and length. The roller can be combined with the Jenmat roll-off table.

### 3.2.5 Milnor

The American company Pellerin Milnor, was of course present in its home market. During the Clean Show 2017, Milnor has introduced two new lines. First is the MWT-Series washer extractors and dryers. Over the years the design of the machine has been optimized to make easier. But Milnor introduced also the innovative RinSave® water saving feature, which is available on all Milnor wash extractors. This software technology allows for the basket to reach a precise G-force that slings the wash liquor, including water, chemistry, and soil, out of the goods after a wash step. A short spin removes more

chemicals without setting them into the linen, than the standard drain step. The quick slinging movement acts like a rinse. The program reduces unnecessary and intermediate rinse steps during the wash process. Because of the RinSave® software it is possible to remove two rinses, which saves water and energy per load. The water saving can go up to 2,5 litre water per kilo cleaned textile. In addition it promotes faster cleaning cycling and lower drying times which boosts the productivity.

Milnor range of wash extractors at the Clean Show 2017. Next to the water saving technology of RinSave® for wash-extractors is the Pulseflow® technology for continuous batch washers. These batch washers were invented to save water, energy and labour. The models were bottom transfer models. In a bottom transfer the goods and the water are transferred from one stage to the next along the bottom of the shell. Milnor introduced their concept of True Top Transfer. Top transfer batch washers move the linen by lifting the textiles out of the wash water, draining the free water, and then sliding the textiles into the next compartment. The batch washer's method of transferring goods is crucial because it is the way the machine introduces each batch of goods to its



*Milnor range of wash extractors at the Clean Show 2017*

## 3.2 Equipment for Industry 4.0



*The Milnor CBW Tunnel washer with PulseFlow® technology*

next bath. This works best when all subsequent compartments have cleaner water. In bottom transfer models, most of the water is pushed forward into next compartment. Instead of a cleaner bath, the textile are exposed to the same, dirty water.

Milnor enhanced the True Top Transfer tunnel concept with PulseFlow Technology by incorporating the standing bath principle with high velocity rinsing for more effective washing and rinsing. The PulseFlow tunnel washer has a greater volume, three high ribs, rotational speed that uses these features to the best and high velocity rinsing. The mechanical action increases the dilution of dirt. Because dirt is more quickly diluted, water and chemicals can penetrate the textile more easily. The perforated scoops used to transfer the goods from one compartment to the next one, is an additional mechanical action which is not present in bottom transfer batch washers.

### 3.2.6 Girbau

Together with its North American subsidiary Continental Girbau Inc., Girbau revealed new products that will increase efficiency and opens new business opportunities. The new DRB feeder and the FRB folder demonstrates the flexibility, ease of use and high output in the feeder unit, with an adjustable amount of work stations combined with the FRB flatwork folder.

Maximum efficiency and ergonomics in industrial laundering are displayed by the suction loading system

on the ST1302 dryer and the new axial flow system (patented by Girbau). This axial flow systems ensures that 100 percent of the hot air passes through the linen, providing an extraordinary level of performance. In addition, the absence of holes in the drum ensures special care and a longer life for the linen.

Girbau unveiled a new 32 kg capacity wash extractor offering easy installation, high-extract speed (reaching 400G-force) and innovative ProfitPlus Control. This is a software system which enables the wash extractor to use standard programs or set your personal washing programs. The machine can be programmed very precisely and is wet clean ready. Also the dosing system can be adjusted so more or less detergent can be dosed or simultaneous dosing of two products. The control software makes it possible to connect with an external dosing system. Now the complete soft-mound high speed washers are available from 8 till 40 kg capacity offering new opportunities.

In the field of vended laundry, Girbau presented new ironers. Laundry owners are interested in offering commercial ironing services. By adding ironers to their machine park, new commercial accounts can be gathered. The Compact flatwork ironing line of Girbau offers a 5-in-1 solution. The machine automatically feeds, irons, folds and stacks flatwork linen. This machine is saving space and investment by integrating functions into a single piece of equipment.



*The Compact flatwork ironing line offers a 5-in-1 solution*



### 3.3. Environmental innovations



### 3.3. Environmental innovations

Industry 4.0 is not only about digitalisation and connection between data and machinery. Data 4.0 is driven by working efficient with resources as energy, chemicals, water and labour. At the clean show, some remarkable innovative products were shown by the industry to work efficient.

#### 3.3.1 PurePulse

PurePulse presented their new water recovery system called; PurePulse™ water and energy savings technology. This system is the newest generation, capable of recovering up to 60-80% of water and up to 50% energy savings.

The PurePulse™ technology is a ceramic hollow fibre membrane-based filtration technology that filters to deliver clean and safe water. Each membrane unit consist of multiple compact fibres with very fine pores in the ultra- and nanofiltration range offering a high water recovery. This technology does not only saves water cost savings but also maintenance costs since the filters are highly effective in removal of dissolved solids.

The Purepulse filter does not need a high energy consuming reverse osmosis system to remove residual colour and is able to save waste heat in recycled water, providing an additional energy saving. The water recovery system is compact and scalable for commercial and industrial laundries.

More information?

[www.purepulsesystems.com](http://www.purepulsesystems.com)

The PurePulse™ water and energy savings technology



### 3.3. Environmental innovations

#### 3.3.2 Energenics Corporation

Energenics is a American business selling mainly air filter systems for Industrial laundries. One of their products are ambient air lint filters which are known in this market for years. Air cleaning filters were introduced to clear the air of lint and dust generated by the mechanical handling of textiles, ironing, folding. This helps against combustible dust explosions and fires in the industrial laundry and a cleaner work area for the employees.

Generally, ambient air lint filters produce air flow so dust does not settle on machinery but on specific areas in the space. But this ambient air lint filter usage vacuum pulling the lint, dust and contaminants from air. When dust is sucked into the lint scrubber, a vacuum blower makes sure that the lint filled air passes the filter media made of flat bonded polyester.

The filter media is specifically designed to collect lint and dust particles created by laundry textile handling operation.

By collecting the dust and lint with air cleaning vacuum style filters, a lot a time can be saved on cleaning the laundry every day.

More information is available on their website  
[www.energenics.com](http://www.energenics.com)



The Energenics Lint Scrubber 8000 usage suction to collect dust

## 4. CINET International Research & Technology Program 2017



*Leon Wennekes informs the audience*

### **Knowledge Database**

By stimulating research and development within the PTC industry and cooperating with international experts, CINET is working actively on an extensive knowledge database. This database consists of information on state of the art textile care processes, quality performances, textile materials, logistics, ICT & online developments, energy efficiency and sustainability. This knowledge is made available to the industry by workshops, educational programs, books, websites and brochures.

### **Operational boards**

CINET's Research & Technology activities are organised by operational boards for textile cleaning and industrial laundry / textile services. Dedicated meetings on research & technology activities are organised in the different regions of the world, often combined with exhibitions and shows. Sometimes videoconference meetings are scheduled to intensify dialog or speed up the process.



*CINET meeting about Laundry-On-Demand at Clean Show 2017*

CINET is actively stimulating innovation and supporting exchange of knowledge by performing research and dissemination activities with an international focus, underlining the added value of international cooperation. Therefore this International Research & Technology Program is set up, defining the topics and priorities. Results are reported to CINET members and used for exchange of information within the global industry.

### **Objectives**

The main objective of CINET is to accelerate innovation by exchanging knowledge and practical information with an international focus:

- Research & technology projects to meet the changing market demands in PTC like Industry, Hospitality, Health Care and Consumers.
- Benchmark studies to provide information of quality performance, sustainability and environmental impact to profile the industry to
- Sustainability projects to provide information to optimize textile cleaning and textile service processes according best practices to increase energy efficiency, lower the environmental impact and increase the product life cycle.

## 4. CINET International Research & Technology Program 2017



*The CINET Book 3:  
The World of PTC:  
Innovations & New Technologies*

PTC innovations are demonstrated and evaluated by CINET. Changing customer demands requires new enabling technologies, allowing PTC companies to provide more advanced services. Demonstration projects provide the textile service and textile cleaning companies information about relevant future developments.

New PTC services, new solvents, processing technologies, automation and functional materials are subject to pilots and demonstrations. An overview of these developments is published in CINET Book 3: The World of PTC: Innovations & New Technologies. Continuous updates and reviews of innovations and developments are organised to keep the information updated.

Link to the website of CINET Book 3:  
<http://www.theworldofptc.com/?L=1&P=300>

### **Innovations & New Services**

Services on a personal level are demanding mass customisation, concepts based upon flexibility in the process, automation and ICT tools to produce tailor made solutions in an efficient and effective way. These needs are the starting point for the development of new service concepts and business cases.

The project SteamChallenge is developing an online service portal and logistic solution for textile cleaners. Together with universities and research institutes new logistical concepts are developed, pilots are performed to demonstrate the abilities and applicability of sustainable logistic solutions for textile care services. An overview of these developments are published in The CINET Book 4: The World of PTC: Innovations & New Services.

Link to the website of CINET Book 4:  
<http://www.theworldofptc.com/?L=1&P=301>



*The CINET Book 4:  
The World of PTC:  
Innovations & New Services*





# Power of partnership

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