



Varia Versilia Ambiente and Cams

IN THE QUEST FOR SUSTAINABILITY

Cams Srl is a leading player in RAP recycling, while Varia Costruzioni is a leading public works contractor in Tuscany, Italy. The two companies have been working together in developing environmental protection solutions and technologies.

Cams was founded in 2001, inheriting 40 years of know-how through the acquisition of the TEM brand, a producer of waste crushing plants since 1964. Cams has also been active in research and development, being attentive to meeting the needs of the market with innovative solutions with exclusive patents. In recent years, Cams has dedicated part of its research to asphalt recycling, giving the company the opportunity to start a long term project in collaboration with Alma Mater Studiorum of the University of Bologna. Among the technologies developed specifically for the treatment of asphalt has been the CTR 1200 secondary crusher, which is equipped with teeth specifically designed to create a product with 100% of the bitumen contained in the recovered material. Amongst other innovations, Cams has recently patented at international level a system of mechanical fingers, so called 'pushers' that allow the feeding into the grinding vents not only the milled asphalt but also the asphalt slabs. Equipped with knives to reduce the slabs dimensionally and to increase the grip capacity of the counter-rotating shafts, material can be processed that would otherwise be landfilled.

Established public works contractor

Varia Costruzioni was created in 1949 by Onofrio Varia, and is now run by the fourth generation of the family. This has led the company to develop and engage in a constant search for technological advances to provide environmental solutions, with Stefano Varia also being the current president of ANCE Toscana Nord for the provinces of Lucca, Pistoia and Prato. In 2019, Varia Costruzioni celebrated its 70th anniversary and now op-

erates from four production sites: one in Lucca, another in Montebonelli producing recycled aggregates, and two located between Lucca and Pietrasanta. The latter are focused on recycling milled asphalt and the production of bituminous conglomerate, recycling 200,000 tons per year of construction and demolition waste.

Breakthrough meeting

Varia Costruzioni began producing asphalt tar conglomerates, and with Europe making great strides towards a circular economy, the company developed an asphalt recycling system using an existing plant. Once the po-



Mr. Stefano Varia, owner of Varia Versilia Ambiente and Varia Costruzioni.

tential of the system was evaluated, Varia Costruzioni began collaboration with University of Pisa to refine the process. The research in this field led to the company to look for potential partners that could support the development of its mill recycling process, beginning a dialogue with Cams which was selected to be Varia's strategic partner for the development of its system.

Noticing the growing global focus on waste recovery, Cams has aimed to be a step ahead in trying to improve process efficiency by developing more and more cutting edge technology geared to the production of materials of superior quality and also providing economic return on the purchase of the plant. Stefano Varia further explains why Cams was chosen as its supplier for the treatment of RAP (reclaimed asphalt pavement): "The ability of the UTS line of Cams to disrupt the material, bringing the particle size curve back to parameters similar to those of the pre-aggregation and, at the same time, to leave virtually unchanged the bitumen content on the inert. These machines make the grinding process much more efficient than the traditional mixing with hammer mills."

The partnership led to Cams developing specifically for the Varia companies a system that includes a UTS 1000-2 primary crusher and a two-storey UVS 25/2 screen. The plant is able to provide two finished products of different grain size without producing any waste. Through a conveyor belt system, the oversize material coming from the UVS 25/2 is reintroduced inside the hopper to be further processed to obtain the required size. The high efficiency of the plant both in terms of mixing and screening, allows Varia to put the material

directly into the production cycle of the bituminous conglomerate, providing acceptable product specifications.

A solution that respects the environment

Cams now has over 800 customers around the world. As to why they have chosen Cams plant, Andrea Trentini, commercial director of the company, explains: "Our team of engineers and designers has an innate passion for innovation and we vendors never tire of testing them. We work together to satisfy the customer and every new request is answered. We could say that Cams have never come out two equal plants. Every customer, as well as every market, has a different need and we must satisfy it. The endless customisation possibilities that Cams offers allow continuous jumps of quality. At first, we study the environmental protection systems, then develop the machine so that it has the least possible environmental impact."

The crushers also have low levels of dust emissions and low operating noise being equipped with noise and dust abatement systems to keep them below 75dB. Another 'green' aspect is the power supply to the machinery with all being hybrid or electrically powered. In addition, the low speed rotation technology of the crushers' shafts, as well as ensuring the quality of recycled materials,



The Varia Costruzioni site for bituminous conglomerates production.

requires very low fuel usage and causes little wear of the components significantly reducing maintenance costs.

The future

Cams technological evolution continues with '4.0 Industry'. This uses an electronic weighing system positioned that when unloading materials is able to detect the quantity of material produced and communicate the data to the company servers thereby optimising the logistics of

the recycling operation. Through the installation of GPS devices, it is also able to control the systems remotely and provide diagnostics even on machinery located at the other end of the world. "Our technicians travel all year around the world and can reach the customers in a short time, but knowing the problems before the arrival of our experts allows us to reach to the site prepared and already equipped with any spare parts needed, thus reducing the recovery time," concludes Andrea Trentini.



Scrap recycling company from the UK turns green with Sennebogen 830 E series

Synetiq, the largest salvage and vehicle recycling company in the UK, has invested in a new Sennebogen 830 E series scrap material handler supplied by Molson Green.

Synetiq has been on a remarkable growth trajectory since it launched last year, following the merger of four well established businesses from the salvage and vehicle recycling industry. Now arguably the largest business of its kind in Europe, Synetiq has sites positioned throughout the UK, including an impressive site in Doncaster that is home to its new Sennebogen 830 E series.

End of life vehicle recycling

There are several avenues a vehicle can go down once it arrives through the gates of the Doncaster site. Vehicles which are listed as Category S or N write offs are deemed as suitable for repair. These are prepared and sold via Synetiq's own online salvage auction which is used by

vehicle traders and repairers worldwide. Category B vehicles are not suitable for repair, but some may contain parts which are perfectly suitable for reuse. These are cleaned, prepared and quality controlled before being sold to a wide range of customers. The shells of these vehicles are crushed on site, ensuring they can never return to the road. After this process, Category B and other ELVs (end of life vehicles) can begin the compliant recycling process. Once an ELV has been de-polluted and harvested of any undamaged or reusable parts, the remainder of the vehicle is transported to the baling plant to be recycled.

830 E series integrated in the core processes on site

Ray Curry, operations director at Synetiq, describes the baling plant at the flagship Doncaster site as the

'beating heart of the business', with approximately 80% of the vehicles being handled by the Sennebogen material handler before being loaded into articulated wagons. Ray Curry says, "On a busy week the baling plant can process around 700 vehicles. With that sort of throughput, the reliability of our plant and machinery is key. With lorries constantly delivering new stock and taking away processed vehicles, a breakdown can easily cause our operation significant problems."

A wide variety of equipment options

Synetiq chose an 830 with mobile undercarriage, which offers an impressive 17m reach. Using the four outriggers to stabilise the undercarriage, the operator can remain in one location and pick the stripped vehicles safely, load them into the baler, stockpile them once processed and even load incoming trucks without having to move. To assist operators in completing tasks more efficiently, the 830 E series has an elevating cab, with additional windscreen and roof protection allowing the operator's eye level to rise to approximately 5.65m. The operator can then see clearly into trailers when loading, ensuring the load is filled to maximum capacity with a greater degree of accuracy. Inside the cab, the operator has an uninterrupted forward view thanks to the ergonomically designed joystick control which has no steering column that blocks the operators' view to the ground where the majority of sorting is completed in this application. It additionally has sensitive response behaviour for precise sorting and piling tasks.

Molson Green sales manager, Dave Peacock said, "Ray and his team were very clear from the outset on what the machine had to do and underlined how we had to support them as a dealer. Any concerns about the after sales backup support from Molson were quickly addressed when we discussed our 10 service locations, significant stock holding of spare parts and the network of over 75 service engineers."