

## **TRM Offers Comprehensive Equipment Solutions for the Retreading Industry**

In 2012 the equipment manufacturer TRM srl was merged into [Marangoni Meccanica](#), and since then all technologies of the mother company have been integrated into the TRM portfolio, and TRM, now under the management of CEO Alessandro Villa, has become the [Marangoni Group's](#) machinery division for the retreading sector. The key point about TRM is that the company, with 35 years' experience in the retreading sector, holds a position as the only company able to deliver full technical solutions for hot and cold retreading, covering bias and radial tyres, as well as the four key sectors of car, truck, OTR and aircraft tyres. The company offers a full range of equipment including inspection equipment, sheargraphy machines, buffers, cushion gum and precured tread builders, tread and sidewall extruders, curing presses, and autoclaves, as well as the capability of putting together turnkey plants. TRM is present in all main market areas where industrial retreading is established and has specific expertise in the aircraft retreading sector, where the company has carried out co-development projects with the key market players, and the OTR sector, where the company is able to use new tyre manufacturing technology in its OTR retreading application. Key customers around the world include major new tyre manufacturers, manufacturer-owned retread entities as well as other major players in the international retread sector. Alessandro Villa explains what the company is trying to do to

gain coverage for the TRM brand across the key suppliers to the retreading sector in all regions of the world. More important, according to Villa, though, is the progress the company has made with all the key players with whom Villa says supply contracts are in development in many parts of the world. Global coverage, of course, is a key part of TRM's business plan, but equally important is the role that the company is able to play in the improvement of the retreading process, in particular the provision of a scalable automation programme for all retreading process steps and the ability to provide level 2 data exchange among all machinery in the workshop reducing the human factor in the retreading process. An example of this can be seen in the chart, which shows the typical process in a retread plant, going through inspection, allowed to load and unload the tyre from the second chuck. The machine can be equipped with an anthropomorphic robot as optional to load and unload the tyres. The machine significantly reduces the buffing cycle time, being capable of processing 30 tyres per hour. The Black Constrictor 3000 Twin, meanwhile, represents the state of the art of retreading building technology, providing a significant step forward in efficiency, by reducing process time, minimizing operator intervention and increasing the consistency of bonding with the application of fresh cushion gum. The machine allows for the processing of 20 tyres per hour by means of two hydraulic drums installed on a revolving

turret. Cushion gum application is carried out in parallel with the building activities, reducing the cycle time considerably. The buffing, skiving, cushion gum application and building. However, the chart also illustrates the savings in time that the company says can be made by incorporating the company's Eagle Truck Twin buffer and Black Constrictor 3003 Twin extruder/builder into the production process. The Eagle Truck Twin is an automatic truck tyre buffing machine designed to minimise process time, reduce production costs and improve the consistency of the final surface finish level. The machine incorporates two drums mounted on a revolving turret, which reduce the footprint of the equipment if compared with two machines with equivalent output. While the tyre is buffed on the first chuck, the operator is machine can be equipped with an anthropomorphic robot as an option to load / unload the tyres. In addition to the above machines, TRM also produces the Black Swan Cushion Gum extruder, a key benefit of which is the incorporation of an integrated profilometer scanner, which only applies cushion gum where required, thereby saving the retreader an average of 150g of material per tyre. The Black Swan operates with a fully automated working cycle, with human intervention limited to the loading and unloading of the casing. This means less skilled operators are required to operate the machine and therefore lower training costs.



*TRM's headquarters*



*TRM's Eagle Truck Twin*



*The TRM Black Constrictor*