



RECYCLE YOUR BOOTS: RECYCLING BOOTS, FROM PROJECT TO REALITY

Tecnica Group "closes the circle" of the ski boot life cycle: 4200 boots, collected, dismantled and recycled into new products. A laboratory of continuous innovation, allowing skiers to make a concrete contribution to a more sustainable future.

From piste, to recycling, and back to the piste. With lower energy consumption and lower emissions, this is the end goal of Recycle Your Boots. The innovative project launched by Tecnica Group in 2021 which intends to recover and recycle ski boots, regardless of brand and model, obtain regenerated raw materials to be used in the production of new boots and new products dedicated to the mountains.

THE PROJECT

Since last year, skiers who purchase a Tecnica ski boot have been able to hand over their old boots to affiliated stores to be recycled, instead of throwing them away, or leaving them to gather dust in their cellar. Tecnica Group engaged a network of partners in the project: first and foremost the store owners, who are committed to raising awareness among skiers and collecting old boots. The Italian company **Fecam** takes care of separating the inner shoes and disassembling each boot into its individual plastic and metal components, which are sent to the nearby **Laprima Plastics** plants, who transform them into second generation pieces.

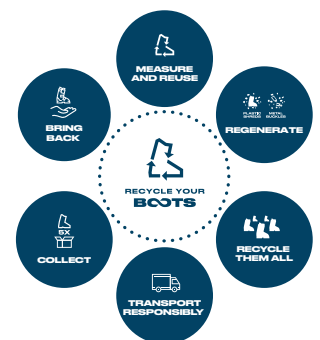
THE RESULTS

Maurizio Priano, Blizzard-Tecnica International Marketing Manager tells us: *"From autumn 2021 to today, an ever-complex period with pandemic events, we collected over 4200 pairs of used boots. A result that makes us happy and optimistic for the future, especially bearing in mind that this quantity has been achieved thanks to 54 store-owners (scattered in 7 countries). This is without the contribution of the Rental stores who, due to the reduced production capacity of companies because of a lack of raw materials, had to keep the older boots for a further year. At the end of the three-year project, our goal will be to collect a minimum of 20,000 pairs. For this second season in addition to Italy, Germany, Austria, Switzerland, France and Sweden, Great Britain, Belgium, Holland, Czech Republic will be added."*

*"One of the most difficult challenges was finding a solution to recycle the shoes - says **Giorgio Grandin**, Tecnica Group Innovation Manager- The polyurethane foam and the complexity of all the components they*



Liski's mattress



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RECYCLE YOUR
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are made of, have represented a considerable difficulty in understanding how to separate them and therefore, how to reuse them. Thanks to the collaboration with **ReMat** we have developed an up-cycling process, which starts from the recycling of all components, in particular the polyurethane of the shoes, to transform them into a compact sheet of regenerated material."

This sheet combined in a sandwich type construction with two other virgin polyurethane sheets, becomes the padding of the protective mattresses of **Liski**, thus returning to the ski slopes in the form of a new product. "Recycle Your Boots is a project that allows us to add not one, but more elements to our commitment to sustainability and research - declares **Carlo Fernandez**, Operation Manager, Liski Sport Equipment. - Not only do we bring back to the mountains a raw material to which a new, second life is given, but we have managed to create products with optimal performance in terms of safety. The results of the crash tests tell us in fact that these 16cm mattresses, which will be adopted to protect the most important Italian ski resorts and in the world, respond just as our "traditional" 20 cm mattresses do: an increase in performance to the benefit of safety, which further qualifies a product already full of value for the project it is part of."

WHAT WE'VE LEARNT

"We understand that when it comes to Sustainability, we need to make a cultural change as well as an approach - **Priano** continues - just think that innovation has always been seen as a "competitive advantage", something to be protected with patents, rather than something to share. If we want to conquer the challenge against excessive waste production and climate change caused by harmful emissions, we have no other choice to share what we have learned and to collaborate together so that there is an effective impact and a reversal of the trend."

This is why for the second year the project **Nordica** also becomes part of RYB and simultaneously, thanks to the collaboration of the FISI and the Montebelluna Sport System, Tecnica Group is presenting RYB to other sports companies and beyond, explaining their processes, technical solutions and bringing their own experience forward.

"In order to understand the impact of ski boot production, we asked for help from the University of Padua and Dr. Alessandro Manzardo's team, who, using the LCA (Life Cycle Assessment) methodology, measured every step of the production process, from raw materials to their transformation into semi-finished products and then into the finished product up to its transport. From this analysis - explains **Michele Botteon**, General Technical Manager Skates & Ski Boots Tecnica Group - we had a clear indication of the priorities, or what to improve to reduce and minimize our impact ". It emerged, for example, that some plastic materials have a weight in terms of CO2 emissions and very high energy consumption, among these in particular, the PVC used mostly in components of the liner. It was therefore decided to completely eliminate



Maurizio Priano



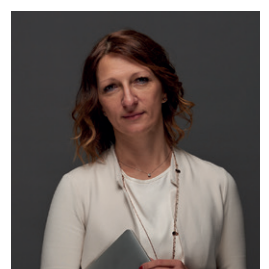
Giorgio Grandin



Carlo Fernandez



Michele Botteon



Arianna Colombari



it from all Tecnica and Nordica boots starting from next season.

"Following what we learned, we started designing our boots according to Ecodesign principles, starting for example, from using virgin plastics that derive from production waste (up to 30% of the total) to the use of raw materials recycled in the components of the liner as well as the search for less complexity in the materials and components in order to simplify their recycling."

RYB 2.0 THE FUTURE OF THE PROJECT

One of the founding concepts of RYB has always been to collect and recycle used boots of all brands and not to limit this only to Tecnica and Nordica. **Grandin** explains: *"In doing so, we found ourselves faced with regenerated raw materials lacking in homogeneity, of little value, usable in non-aesthetic and functional parts of boots or other products such as skis. For this reason we created a "Passport for the Recycling of Materials" in which the Tecnica and Nordica boots are made. Starting from the FW23 collections, all our boots will carry a QR code on the cuff that will allow our FECAM Selection Centre to perfectly know not only the materials, but their elastic modulus and the manufacturer. Thus, allowing them to separate the hull from the shoe and to select plastic parts made from the same material, thus allowing the generation of homogeneous raw materials with mechanical characteristics that we know perfectly."* This will allow the use of these materials more extensively for the production of the functional parts of the boot shell, further lowering the consumption of virgin raw materials and therefore the CO2 footprint, obviously without compromising either durability or performance.

MEASURE, TO INTERVENE MORE EFFECTIVELY

Arianna Colombari, Communication & Sustainability Director of Tecnica Group: *"RYB and its objectives represent a best practice in the Group's sustainability strategy, specifically the environmental dimension, which together with the social and governance sphere is one of the pillars on which our vision of a more sustainable future is based.*

We believe that there is no single way to sustainability: our path can only start from precise knowledge of our impact, to understand where it makes the most sense to intervene; for this, RYB is part of a larger and more continuous work of measurement, tracking and analysis, as indicated in our first Sustainability Report forthcoming. "



The Life-RecycleYourBoots project has received funding from the LIFE Programme of the European Union.

THE PROJECT'S PHASES



(1) Old ski boots
disassembling phase



(2) Liner mechanical
crashing phase



(3) Liners' crashing output



(4) Liners' crashing flakes
output



(5) TPU virgin pellets



(6) RYB regenerate TPU ski
boot components



(7) New components
for ski boots



(8) New components
for ski boots



(9) Liski's mattress