

## SUSTAINABLE “SWISS EBONY” FOR MUSICAL INSTRUMENTS

### Problem – Challenge

*Like many tropical wood types, ebony is an endangered species that is tricky to use, for instance, in instrument manufacturing. Despite strict trade regulations, ebony stocks are plummeting. Furthermore, ebony in musical instruments such as violins may only be imported into some of the 183 CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) countries if the legal provenance of the material in the finished product can be proven to customs authorities. Therefore, many musicians are reluctant to travel with their instruments as getting them through customs is quite risky. Numerous instruments have already been impounded. However, travelling isn't the only problem. Anyone who deals in these instruments may be liable for prosecution if they are unable to prove the legal provenance of the material. Hence a substitute is urgently needed.*

### Solution

*This is where the Empa and ETH spin-off “Swiss Wood Solutions” comes in. The start-up was founded by researchers from Empa and ETH Zurich. Its product, “Swiss Ebony”, consists of modified maple – a sustainable and entirely legal wood-based material. CEO Oliver Kläusler and his team discovered a way to modify Swiss timber so it exhibits the properties of endangered tropical wood, which are crucial for instrument manufacturing. The ebony substitute can already match its natural role model in terms of quality and price. However, the researchers aim for a completely “green” production chain. The development conducted thus far was funded by grants from the Gebert Rüt Foundation, a grant from the Horizon2020 program, and the seed money from the co-founders. Moreover, the spin-off receives coaching from Empa’s business incubator glaTec, from the Suisse Innovation Agency Innosuisse, and from Venture Kick.*

Violins  
Photo: Wilhelm  
Geigenbau AG



Professionals of PQV  
playing on Swiss Ebony fittings  
Photo: Empa



Master violin,  
equipped with Swiss  
Ebony line fittings  
(pegs, fingerboard,  
tail piece, chin rest)  
Photo: Empa

