Ultrasound in Metallurgy

Who was involved in research projects regarding ultrasonic casting, microcrystallization, solidification, degassing...alloying... knows what the benefits are. In available literature you can find a lot of information regarding ultrasonic metallurgy (the only problem in present-days ultrasonic metallurgy is that available ultrasonic equipment has always been the biggest limitation from many design and application aspects: operating temperature, resonant tuning, variable acoustic load, coupling…).

The contribution of MMM technology to this field is that MMM concept brings much better and much more flexible ultrasonic equipment (in comparison to traditional ultrasonic equipment). Now, using MMM ultrasonic equipment, we will not have application, design and technological limits in metallurgy.

The clients interested in ultrasonically assisted metals extrusion, casting, molding, injection, alloying, composite metals making... are welcome. Practically, the main idea of this project is related to the fact that we can easily introduce ultrasonic vibrations into molding tools, continuous casting lines, extruder body..., and any alloy can be processed or modified much easier, compared to existing, traditionally known technologies (because ultrasonic vibrations would remove friction, make perfect metal homogenization, degassing, perfect micro crystallization, modify viscosity etc.). Removing micro-porosity and voids developed during the solidification phase of castings is also a benefit of ultrasonically assisted metallurgical processing.