



Jochen Altenberend, Tekna Plasma Europe

How ICP Enables Material “Miracles” in Research and Industry

Abstract:

For more than 35 years, Tekna has been advancing Inductively Coupled Plasma (ICP) technology and transitioning it from laboratory concepts to demanding industrial and research applications. The combination of extremely high temperatures, high purity processing capabilities, and robust operational stability makes ICP a foundational technology for developing next generation materials.

Tekna's plasma atomized titanium powder has become the benchmark for high end medical and aerospace applications, outperforming gas atomized powders that often suffer from porosity and satellite formation. In addition, Tekna's plasma spheroidization systems are widely used to produce highly spherical refractory metal powders with superior flowability. Complementing these industrial solutions, Tekna's versatile research grade ICP systems empower universities and research institutes to develop novel powders for additive manufacturing, nanoparticles for various applications, and advanced coatings. The inherent scalability of the ICP technology enables rapid transfer of new materials from research to industrial deployment.

These systems also support testing under extreme thermal and kinetic conditions that closely emulate hypersonic flight environments, providing essential insights into behavior of thermal protection system materials that make hypersonic flight possible.

This presentation will illustrate how Tekna's plasma systems help customers achieve breakthroughs - sometimes described as “miracles” - in fields where extreme temperatures are essential for success.

Biography:

As a Technical Sales Manager at Tekna, Dr. Jochen Altenberend delivers tailored plasma solutions that unlock new possibilities for advanced materials. He built his foundational expertise in Inductively Coupled Plasma (ICP) technology during his PhD at Université Grenoble Alpes, studying its application in silicon refining. Driven by an entrepreneurial mindset, he went on to launch two startup projects, the first in the domain of solar silicon and the second in the domain of aluminium alloys for additive manufacturing. Dr. Altenberend now draws on this unique blend of deep-tech research and industry experience to guide Tekna's partners through the transformative capabilities of plasma technology.