

# Niobium for MRI\*



**TIC**

\* Magnetic resonance imaging

**Niobium** (Nb)\* is a rare grey metal with a number of unique and important qualities. When it is used in magnetic resonance imaging (MRI) machines niobium makes an enormous contribution to improving human health.



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m	M	Lr		Rf	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		Fr	Ra		Ac	Th	Pa	U	Np	Pu	A	Am	Cm	Bk	Cf	Es	Fm	M	Lr		Rf	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		Fr	Ra		Ac	Th	Pa	U	Np	Pu	A	Am	Cm	Bk	Cf	Es	Fm	M	Lr		Rf	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		Fr	Ra		Ac	Th	Pa	U	Np	Pu	A	Am	Cm	Bk	Cf	Es	Fm	M	Lr		Rf	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		Fr	Ra		Ac	Th	Pa	U	Np	Pu	A	Am	Cm	Bk	Cf	Es	Fm	M	Lr		Rf	Hf	Ta

MRI is used in hospitals as a precise and non-invasive diagnostic tool to examine patients. Unlike conventional radiography (X-ray) and computed tomography (CT) scanning, MRI imaging techniques do not expose patients to potentially harmful ionising radiation.

A modern-day MRI system can create three-dimensional images in close to real-time: a modern MRI machine, supported by appropriate software, can take a single scan in 15 milliseconds, or some 66 scans per second.



A simple two-dimensional MRI scan (Shutterstock)



Advances in MRI machines and their software now allow three-dimensional representations to be created from multiple MRI scans (Shutterstock)

Every day hundreds of thousands of MRI scans are taken around the world, allowing millions of people to live longer, healthier lives.



(Shutterstock)

For more information on the many uses of niobium visit [www.TaNb.org](http://www.TaNb.org).



# **TANTALUM-NIOBIUM**

## **INTERNATIONAL STUDY CENTER**

**[www.TaNb.org](http://www.TaNb.org)**

The T.I.C. is the international trade body that represents the tantalum and niobium industries. We have around 90 members from over 25 countries involved with all aspects of the tantalum and niobium industry supply chain (from mining and refining through to OEMs and recycling).

### OBJECTIVES

- Increase awareness and promote the remarkable properties of tantalum and niobium.
- Host the Anders Gustaf Ekeberg Tantalum Prize, an annual award that recognises excellence in tantalum research.
- Organize a General Assembly (conference) in October each year for business and technical presentations. Non-members may attend.
- Publish a quarterly Bulletin newsletter for members and stakeholders.
- Collect from the members (via an independent company to ensure confidentiality) statistics on the tantalum and niobium industries.
- Address key issues facing the industry, such as legislation, supply chain due diligence, and transport of radioactive materials (NORM).

### **Tantalum-Niobium International Study Center (T.I.C.)**

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