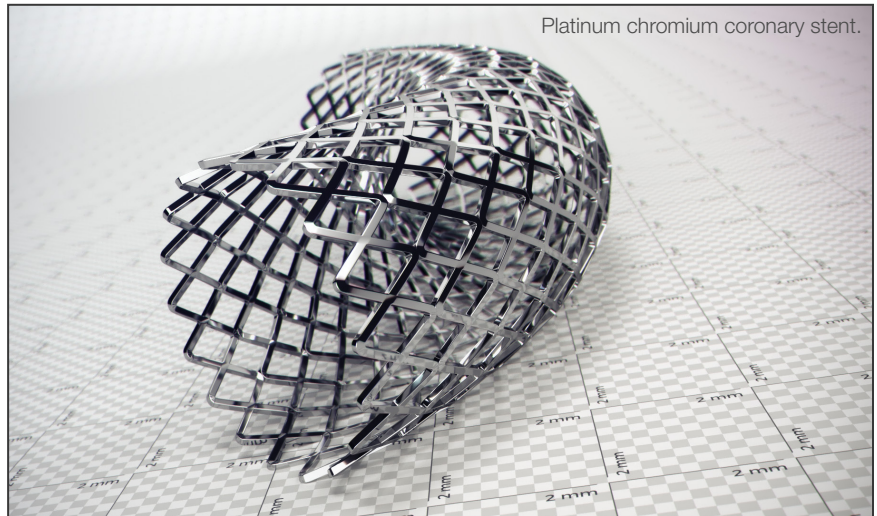


# SUCCESS STORY

## NOVEL PLATINUM/CHROMIUM ALLOY FOR THE MANUFACTURE OF IMPROVED CORONARY STENTS

A coronary stent is a small, self-expanding metal mesh tube that saves thousands of lives every year by opening blocked arteries and allowing blood to flow freely again. Jointly developed by NETL and Boston Scientific Corporation, Inc., (BSCI) this novel alloy is the first austenitic stainless steel formulation to be produced for the coronary stent industry, with a significant concentration of an element, platinum, with high radiopacity—high visibility with x-ray scanning. Better visibility means greater ease and precision in placement of the stent inside the patient's blood vessel. In addition, the greater yield strength of the alloy allowed the stent's designers at BSCI to make a thinner, more flexible stent that is more easily threaded through the winding path of the artery without doing damage along the way which has allowed to be deployed much smaller vessels in and around the heart.

Since introduction in 2010, the platinum/chromium coronary stent series, which includes the PROMUS® Element™, ION™, and OMEGA™ Stent Systems, has become the leading stent platform in the world. Total sales since introduction have



exceeded \$4 billion. BSCI now has a 45 percent share of the market in the U.S. and a 33 percent global share of the coronary stent market using the platinum/chromium (PtCr) alloy.

A newly-developed stent that incorporates this alloy has received approval in Europe for use in treating critical limb ischemia, a severe obstruction of arteries within the extremities, which reduces blood flow and can damage tissues. Restoring and maintaining peripheral blood flow in these patients is critical for proper tissue repair and reduces the risk of amputation. This alloy will be used in making all of BSCI's future coronary stents, both bare and drug-eluting according to BSCI personnel, making this product hugely successful.

In 2011, the new alloy captured two prestigious awards: an R&D 100 Award, given by R&D Magazine to recognize the 100 most technologically significant products entering the marketplace each year, and a technology transfer award for "Outstanding Commercialization Success" from the Federal Laboratory Consortium for Technology Transfer. On October 4, 2012, the NETL team who developed this alloy received the highest honor of all, the U.S. Secretary of Energy's Achievement Award.



Paul Turner of the NETL coronary stent team (right) accepting the 2012 U.S. Secretary of Energy's Achievement Award. Secretary Steven Chu (left).

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