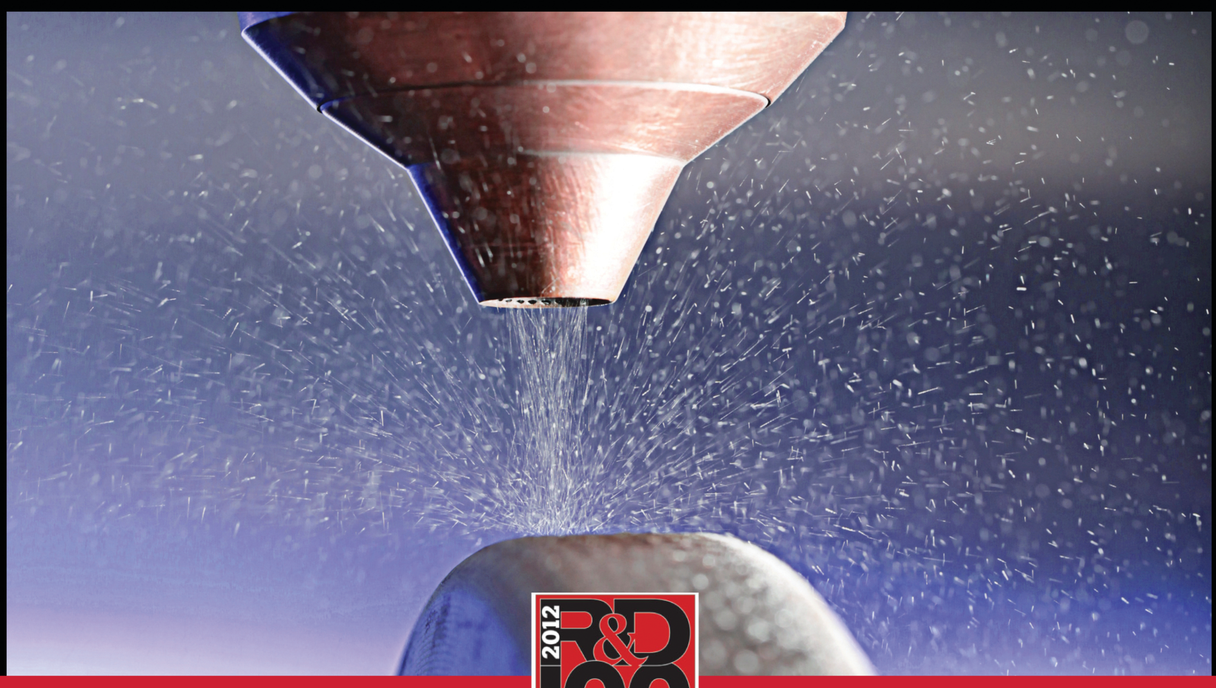

2012 R&D 100 50th ANNIVERSARY

# Nano-Super-Hard, Inexpensive, Laser-Deposited Coatings, or NanoSHIELD Coatings

A protective coating that can extend the life of costly cutting and boring tools by more than 20 percent. It is created by laser fusing a unique iron-based powder to any type of steel, which forms a strong metallurgical bond that provides wear resistance between 2 and 10 times greater than conventional coatings.

## Jointly developed by

Oak Ridge National Laboratory
Lawrence Livermore National Laboratory
Strategic Analysis Inc., Ozdemir Engineering, Inc.
Colorado School of Mines
Carpenter Technology Corp.

## Sponsored by

Oak Ridge National Laboratory
Laboratory Directed Research and Development program


**Recipients** From left: Peter Blau, Art Clemons, Craig Blue, Tomas King, William Peter, Frank Wong, Ryan Dehoff, Larry Lowe, Kevin Harper, Wei Chen, and Andrew Klarner

OAK RIDGE National Laboratory | Lawrence Livermore National Laboratory | SA Strategic Analysis Inc. | Colorado School of Mines Energy and the Earth | CARPENTER

**Point of contact:** William Peter • peterwh@ornl.gov • 865-241-8113

ORNL 2012-G01084/lmh