

# ForCAST

The Newsletter of the American Metalcasting Consortium

Summer 2021



## BUSINESS CASE ANALYSIS OF CASTING SOLUTIONS FOR READINESS TASK ORDER 7

In the summer of 2020, the American Metalcasting Consortium (AMC), engaged BCS, LLC to conduct a business case analysis of the three Casting Solutions for Readiness (CSR) Task Order 7 projects shown below.

### CSR Task Order 7 Projects

Project Title	Performing Organizations	Sponsoring Industry Association
On-Demand Melting	University of Alabama – Birmingham (UAB) Case Western Reserve University	North American Die Casting Association (NADCA)
Automated Image Analysis	UAB	Steel Founders' Society of America (SFSA)
Digital Radiography Standards	UAB	Non-Ferrous Founders' Society (NFFS)

The business case analysis provided insights into the effectiveness and value of DLA's investments into these projects. The analysis used common business measures—including return on investment (ROI), internal rate of return (IRR), and net present value (NPV). The analysis evaluated the cash flow of these technologies over a 15-year period, which included 5 years of research and development (R&D) funding followed by 10 years of market adoption and also included a time delay for DLA to receive benefits denoted by subscript d.

The analysis found that based on the DLA investment of \$1,165,199.98, the CSR Task Order 7 portfolio had a NPV<sub>d</sub> of \$3,289,141, an IRR<sub>d</sub> of 27%, and an ROI<sub>d</sub> of 724% through 2030. Specific findings included the following:

- The On-Demand Melting project performed by UAB and NADCA provided the largest value—ROI<sub>d</sub> of 249%, IRR<sub>d</sub> of 17%, and NPV<sub>d</sub> of \$626,000 over a 10-year period.
- The Automated Image Analysis project performed by UAB and SFSA demonstrated an ROI<sub>d</sub> of 173%, IRR<sub>d</sub> of 13%, and NPV<sub>d</sub> of \$132,000.
- The Digital Radiography Standard project performed by NFFS and UAB had an ROI<sub>d</sub> of 34%, IRR<sub>d</sub> of 10%, and NPV<sub>d</sub> of \$212,000.

These numbers indicate that the DLA investment resulted in positive benefits. When factoring in the expenditures and total savings attributed to the CSR Task Order 7 portfolio, these projects have the potential to yield over \$4,062,695 in cost savings to DLA which is nearly four times the R&D investment that DLA provided.

### Upcoming Events

- NADCA Die Casting Congress, October 4-6, 2021, Indiana Convention Center, Indianapolis, Indiana
- AMC Virtual Technology Review, November 3-5, 2021
- The Defense Manufacturing Conference (DMC), December 13-16, 2021, Gaylord Rockies Resort and Convention Center, Denver, Colorado

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