TMI ATC: Goal

Lead and coordinate a national effort to develop and deploy advanced manufacturing technologies across the broad thermal manufacturing community, including equipment manufacturers and end users.
Thermal Manufacturing Industries

- Heat Treating
- Drying
- Fluid Heating
- Calcining
- Metal & Non-Metal Heating
- Smelting & Agglomeration
- Curing & Forming

Value-Added End User
- Farm & construction equipment
- Fabricated metal products

Materials Manufacturing
- Transportation
- Metals
- Glass
- Cement
- Petroleum
- Paper
- Construction materials

Source: U.S. Census Bureau 2007, 2010
TMI ATC: AMTech Project

- Planning grant received from NIST Advanced Manufacturing Technology (AMTech) program
- 18 month duration (starting June 1, 2014)
- $400K grant amount
- Two parallel efforts:
  - Create a Thermal Manufacturing Advanced Technology Roadmap
  - Establish the Thermal Manufacturing Industries Advanced Technology Consortium
## TMI ATC Project Team

<table>
<thead>
<tr>
<th>Partner</th>
<th>Type</th>
<th>Expertise</th>
<th>Number of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASM International</td>
<td>Professional society</td>
<td></td>
<td>30,000 professionals</td>
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<tr>
<td>Association for Iron and Steel Technology (AIST)</td>
<td>Professional society</td>
<td></td>
<td>16,000 professional and student members</td>
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<tr>
<td>Forging Industry Association (FIA)</td>
<td>Trade association</td>
<td></td>
<td>300 member companies</td>
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<tr>
<td>Heat Treating Society</td>
<td>Professional society</td>
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<td>3,500 members</td>
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<tr>
<td>Industrial Heating Equipment Association (IHEA)</td>
<td>Trade association</td>
<td></td>
<td>45 company members</td>
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<tr>
<td>Metals Processing Institute (MPI)</td>
<td>Research organization</td>
<td></td>
<td>45 corporations</td>
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<tr>
<td>Metal Treating Institute (MTI)</td>
<td>Trade association</td>
<td></td>
<td>270+ plants</td>
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<tr>
<td>Oak Ridge National Laboratory</td>
<td>National laboratory</td>
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<td>N/A</td>
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TMI ATC: Organization

- ASM International’s Stan Theobald, Senior Director, Business Development is project lead
- Nexight Group LLC is supporting the project
  - Roadmapping
  - Communications
  - Project Management
- A Leadership Team has been established to provide guidance and representation of key constituencies
TMI ATC Leadership Team

ASM
Stanley Theobald
Project Lead

Roadmapping Support Contractor
Nexight Group

AIST
Ronald Ashburn
Executive Director, AIST

FIA
Roy Hardy
Executive Director, FIA

Heat Treating Society
Michael O’Toole
Executive Director, Heat Treating Society

IHEA
Andy Goyer
Director of Technical & Government Affairs

MPI
Dr. Richard Sisson
Dean of Graduate Studies and Director of Manufacturing and Materials Engineering, WPI

MTI
Tom Morrison
CEO, Metal Treating Institute

ORNL
Dr. Craig Blue
Director, DOE EERE AMO Manufacturing Demonstration Facility at ORNL
TMI ATC Overall Project Plan

Month

Tasks and Milestones
- Establish Vision & Goals
  - Vision & Goals Statement
- Develop Expert Assessment
  - State-of-the-Art Summary
  - Interview Synthesis
- Lead Collaborative Workshops
  - Workshop Report
- Develop Sustainability Plan
- Prepare Preliminary Roadmap
- Launch & Implement Roadmap
- Conduct First Full Consortium Meeting
- Develop Plans for Implementation of Roadmap

◆ = Key Milestone  ◆ = Interim Milestone
TMI ATC Roadmapping Process

Roadmapping Process

1. **Establish Vision and Goals**
   - Early facilitated processes that establish the strategic framework that enables more focused downstream work

2. **Develop Expert Assessment**
   - Targeted literature review and expert interviews frame relevant issues and focus workshop discussions

3. **Hold Two Collaborative Workshops**
   - A consensus-based approach that identifies gaps, uncovers opportunities, drives prioritization, builds actionable timelines and next steps, and ensures full engagement and results that drive decisions

4. **Prepare Roadmap**
   - Our innovative communications team works closely with out technical experts to convert raw inputs into compelling roadmap products and also gathers critical input from stakeholders during a structured, expanding review process

5. **Launch & Implement Roadmap**
   - The final roadmap in a range of media and with supporting communications tools enables effective engagement with target communities

Consortium Development Process

1. **Vision & Goals Statement**
   - TMI ATC Leadership launch meeting

2. **State-of-the-Art Summary**
   - TMI ATC Leadership Team drafts consortium structure

3. **Interview Synthesis**
   - TMI ATC Leadership Team provides guidance on experts for interviews

4. **Prioritized Barriers, Actions & Targeted Plans**
   - TMI ATC Leadership Team provides input to workshop participants

5. **Final Roadmap**
   - TMI ATC Leadership Team facilitates draft roadmap reviews

6. **Launch Kit**
   - TMI ATC Leadership launch meeting

7. **Launch**
   - TMI ATC holds first full consortium meeting

8. **Implementation**
   - TMI ATC develops plans for implementation of roadmap
TMI ATC: Getting Involved

Those interested in further information about the Thermal Manufacturing Industries Advanced Technology Consortium should contact:

**Stan Theobald**  
**Senior Director, Business Development**

9639 Kinsman Road | Materials Park, Ohio | 44073-0002 USA

P 440.338.5151 ext. 5502  
F 440.338.6614  
E [stan.theobald@asminternational.org](mailto:stan.theobald@asminternational.org)  
W [www.asminternational.org](http://www.asminternational.org)