**Strategic Planning**

**2019 Process**

In August 2019, over 30 members of ASM, the Operations Management Team, and invited experts were called together to help chart ASM’s path forward over the next 5 to 7 years with an external facilitator, Pete McVoy, a CEO of Visioneering, Inc. This document contains the key results from that meeting. The participants are listed below.

The meeting was conducted within the context of ASM’s 2016 Strategic Plan, and its subsequent 2017-2019 Annual Operating Plans, which collectively and consistently defined and executed “The ASM Renewal.” To further the renewal, the Board initiated several task forces in 2018 to identify and examine key forward-looking topics of interest to the overall membership. Those topics included Education, Committee Restructuring, Student and Young Professional Membership, Global Network, Diversity, Equity and Inclusion, and Digital Strategy.

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<th>Board Trustees</th>
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<td>Raymond Fryan</td>
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<td>David Furrer</td>
<td>Priti Wanjara</td>
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<td>Larry Hanke</td>
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<td>Diana Lados</td>
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<td>Aadithya Jeyaranjan</td>
<td>Kimberly Gliebe</td>
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<td>Kenna Ritter</td>
<td>Ashwin Kuma</td>
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<td>Eli Vandersluis</td>
<td>Nisrit Pandey</td>
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<th>Invited Experts</th>
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<td>William Frazier, Past President</td>
<td>William Mahoney</td>
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<td>Al Green, JumpStart</td>
<td>Veronica Becker</td>
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<td>Saul Hernandez, Gartner</td>
<td>Ron Aderhold</td>
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<td>Ray Leach, JumpStart</td>
<td>Ryan Milosh</td>
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<td>Matthew Perricone, Membership Comm. Chair</td>
<td>Leslie Taylor</td>
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<td>Susan Pyles, Employment Research Council</td>
<td>Sydney Victor</td>
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<td>Ravi Ravindran, Past President</td>
<td>Nicole Hale</td>
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<td>Mark Smith, Past President, Inv. Comm. Chair</td>
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Foundational Beliefs

ASM International is a society of professionals who come together to accomplish great works for the common good which cannot be achieved independently. The vision of ASM is to be the leading resource for the advancement of materials knowledge.

The shared core values for management of the society include:

- Integrity and transparency in all society operations
- Competent stewardship of society finances
- Exceptional service to society members
- Promotion and support for a diverse and inclusive global community of volunteers
- Continuous improvement via an adaptable and flexible organization

Under this umbrella of core values, the society embraces lifelong relationships with members through a virtuous circle of education, experience, and learning. These shared values of transparency, integrity, diversity, and constancy of purpose are ASM’s great enablers. These enablers will serve the Society in pursuit of its mission to provide knowledge, education, networking, and professional development for its members, and improved materials performance for organizations served by our members, and the materials community at large.

Environmental Scan

The following strengths, weaknesses, opportunities, and threats were identified.

- **Strengths**: ASM’s technical materials content; engaged volunteers and employees; and the international chapter network.
- **Weaknesses**: A lack of diversity; an underdeveloped global presence; and a lack of depth in non-metal technologies.
- **Opportunities**: Delivering digital materials content globally; strategic collaborating with other non-profit organizations; and providing professional education to the global manufacturing sector.
- **Threats**: Competition from other non-profit organizations; widely available, no-cost digital access to pedigreed information and data; and a lack of corporate support for professional societies.

The participants also identified the major challenges facing the society as integrated computational materials engineering (ICME) and machine learning and artificial Intelligence (ML/AI). These trending areas also represent significant opportunities for the Society.
**Strategic Goal Setting**

Three significant stretch end states “BHAG’s” were identified in the 2016 strategic plan to help point ASM toward achieving its goals:

- ASM membership is the obvious choice for anyone with an interest in materials.
- ASM is the recognized world leader for materials information.
- ASM utilizes strategic partnerships and collaborations to provide enhanced value to its members.

Three corresponding critical areas of endeavor in which ASM International had to excel in order to ensure success and growth were 1) increased membership, 2) technical excellence, and 3) strategic partnerships/collaborations. All of these areas remain critical to ASM today. When these are combined with the foundational beliefs and current environmental scan, the following four strategic, overarching goals were identified in 2019:

- **Develop a digital-first platform** that encompasses all aspects of ASM activities including service for members, chapters, councils, and the Board; curation, delivery, and maintenance of technical content; and collaborations with stakeholders. This platform will aggregate, curate, validate, and disseminate the materials community’s most relevant technical information, and make it discoverable, searchable, accessible, and interoperable.
- **Establish an interdisciplinary collaboration framework** to engage organizations in the materials production and manufacturing supply chain and integrate materials information into partners’ information flows and decision-making metrics.
- **Create a global professional network** with technical and professional societies through mutually beneficial joint activities, including webinars, workshops, conferences, and publications, based on needs of members and interests of stakeholders.
- **Cultivate a foundational culture and practice of diversity, equity, and inclusion** to enable ASM to move forward. Thriving in the modern climate will require full engagement of the entire breadth and depth of the materials community.

Through action plans focused on these four strategic goals, ASM is working first to be a healthy organization that responds to the needs of its members and their organizations. By achieving these overarching goals and adhering to foundational beliefs, ASM will be an effective steward for the materials science and engineering discipline. The outcomes expected from this strategic plan include an expanded base of trained personnel, improved materials understanding, and more efficient and effective performance across the global materials and manufacturing industry (see figure below):

*Figure 1.*

Four strategic goals to achieve success in three critical areas through annual operating plans (AOP).
Operational/Action Plans

To accomplish the 2019 strategic goals, actions as described below are needed that will be executed through the Annual Operating Plans (AOP), for 2020 and beyond. The AOP will be proposed by the Operations Team and approved by the Board of Trustees annually, to directionally implement a virtuous circle of learning, experience, and education (as shown below)

   1.1. Complete the re-engineering of ASM legacy content and populate ASM’s digital library.
   1.2. Establish an ASM chief technology office, combining expertise in materials science, data science and information technology.
   1.3. Develop and grow data stores and services support for materials analytics.
   1.4. Develop and deploy an ASM software-as-a-system (SaaS) ecosystem for subscription-based third-party content, databases, data, and software.
   1.5. Develop and make widely available tools for integrated models such as life-cycle analysis and digital twins, following standards including ISO 10303.
   1.6. Work with the ASM chapter network, affiliate societies, universities, community colleges, and peer professional societies/chapters to distribute ASM digital and non-digital contents via revenue sharing.
   1.7. Implement measures to ensure diversity, equality, and inclusion of digital content developers, employees, volunteers, and users, e.g., following website content accessibility guidelines.

2. Grow ASM interdisciplinarily: Establish a collaboration framework.
   2.1. Evaluate and shape resources to improve support for interdisciplinary education, including expanding awards for early- and mid-career individuals, significant recognition for professors, and sizable student scholarships.
   2.2. Develop and implement new membership and subscription structures that support an interdisciplinary framework.
   2.3. Continue testing the ASM Materials Solutions Network with a goal to offer this as an opportunity and a service to ASM members.
   2.4. Develop an ASM Technology Ventures enterprise to support materials innovation and integration of new materials science and engineering across the production enterprise.
   2.5. Implement measures to ensure diversity, equality, and inclusion of materials network partners, technology venture participants, volunteers, and employees.
3. **Grow ASM globally**: Create a worldwide professional network

3.1. Develop a systemic approach to secure collaborations with established partners in key geographies that benefit members and their organizations.

3.2. Expand memoranda of understanding to partners (similar to the MOU with the Materials Research Society).

3.3. Offer digital publishing services to global partners.

3.4. Establish a mechanism to measure growth in membership and enhancements to technical content via global collaborations.

3.5. Implement measures to ensure diversity, equality, and inclusion of global partners, volunteers, and employees.

4. **Found a Culture of Diversity, Equity, and Inclusion**

4.1. Outwardly communicate the Society’s commitment to Diversity and Inclusion and share information about all diversity efforts to date between volunteers, members and employees.

4.2. Consistently provide opportunities for members to participate in the continued development of Inclusion initiatives and programs, to create an authentic, welcoming meritocracy for talent from every quarter.

4.3. Identify and break down systemic barriers within the Society to full inclusion by embedding Diversity and Inclusion in policies and practices, and by equipping Society leaders, volunteers, and employees with the tools to manage diversity and be accountable for the results.

![Figure 2. ASM: A virtuous circle of learning, experience, and education](image-url)

THANK YOU FOR YOUR SUPPORT IN ASM’S PROMISING FUTURE IN 2020 AND BEYOND.