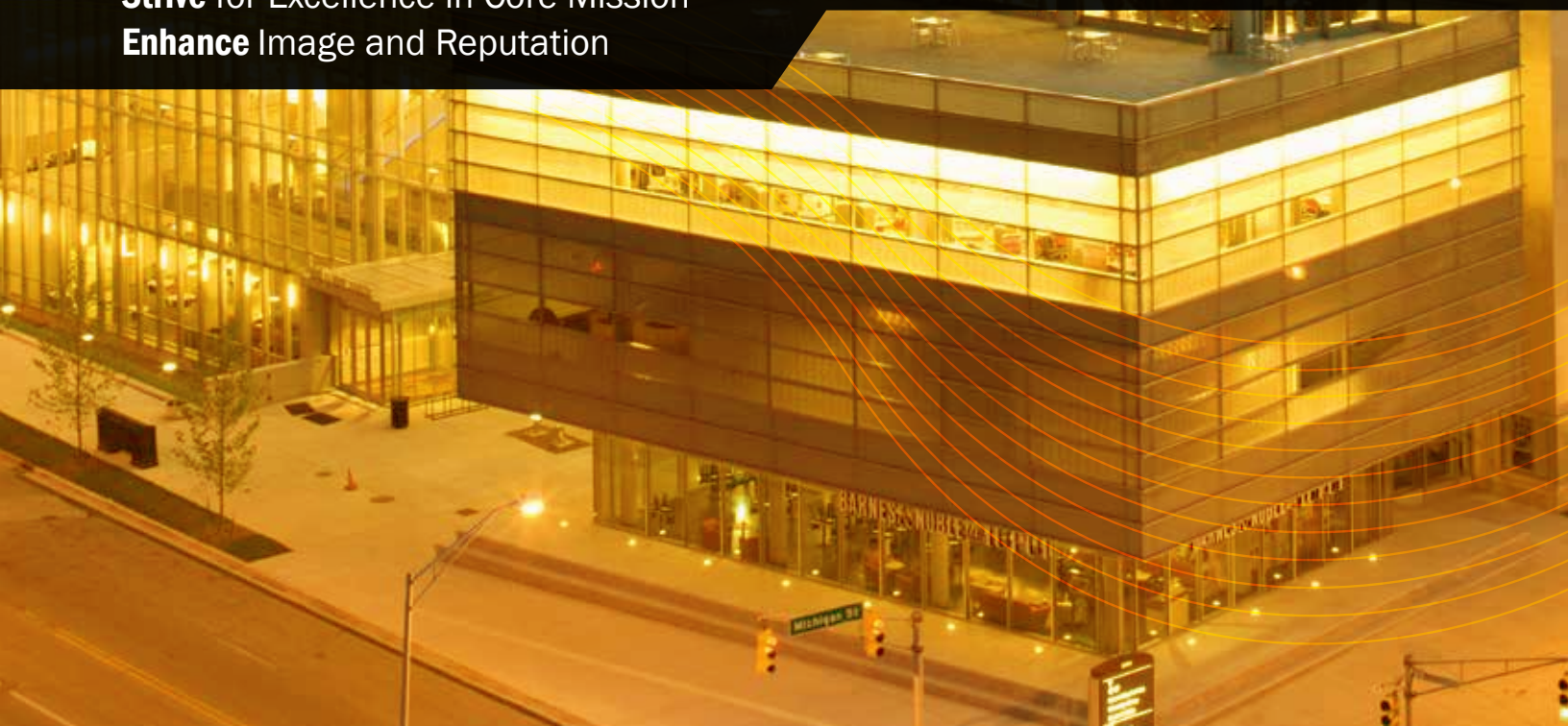
IUPUI | SCHOOL OF ENGINEERING AND TECHNOLOGY

A PURDUE UNIVERSITY SCHOOL

Indianapolis

Strategic Plan: January 2012 - December 2017

Compete at the Highest Levels
Strive for Excellence in Core Mission
Enhance Image and Reputation



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Preamble:

The Purdue School of Engineering and Technology, IUPUI, has an outstanding tradition of serving the workforce and technological needs of the Indianapolis metropolitan area and Central Indiana. The School has made great strides over the last several years to broaden the impact of its core mission in teaching, research and creative activities, and civic engagement throughout Indiana and beyond. The School is well-positioned to assertively move forward to achieve higher levels of excellence and impact in key focus areas, with the goal of being regarded as one of the premier urban engineering and technology schools in the nation.

The plan that follows includes a set of initiatives to help focus attention and resources to create a sense of strategic direction for the School. The plan is not intended to cover all of the operational activities of the School or to diminish goals, accomplishments, or other initiatives that may not be explicitly cited. The fundamental purpose of our strategic plan is to accelerate progress toward achieving distinction and differentiation in areas of specific strength or potential, while capitalizing on our tradition, prior investments, and location.

We appreciate your interest and your involvement in shaping the future of our School. With the help of our alumni, industry partners, and friends, we will successfully compete at the highest levels, achieve excellence in our core mission, and enhance our image and reputation. We look forward to sharing with you the progress we are making with each of our initiatives.

David J. Russomanno, Ph.D.
Dean

A. Vision, Mission, and Values

Vision

The Purdue School of Engineering and Technology, IUPUI, will be regarded as one of America's premier urban schools of engineering and technology, recognized regionally, nationally, and internationally for its excellence in teaching and learning, research and creative activities, and civic engagement.

Mission

The Purdue School of Engineering and Technology, IUPUI, serves the greater Indianapolis metropolitan area, the State of Indiana, and the nation by providing a high-quality learning environment informed through the discovery and dissemination of knowledge via the scholarship of teaching and learning, research and creative activities, and civic engagement.

Values

The core values that define, inform, and guide the decisions within our School are as follows:

Excellence: Academic excellence is our top priority. We pursue excellence in learning, teaching, research and creative activities, and civic engagement as the highest indicators of successful achievement.

Competition: Competition enhances innovation. We strive to compete at the highest levels in the pursuit of extramural support for our students, as well as for our research and creative activities.

Collaboration: We promote teamwork and partnerships for solving problems and disseminating and transferring knowledge, thus multiplying our accomplishments.

Diversity: We value diversity in all of its forms in our research, curricula, and pedagogy and in our faculty, staff, and student composition.

Leadership: We encourage and reward effective leadership at every level in the School.

Location: We are fortunate to be located in the vibrant city of Indianapolis and we strive to capitalize on the urban setting to address the challenges of a global society.

Professionalism: We foster and reward high standards of collegiality and integrity.

Responsiveness: We are committed to community and professional service to meet the needs of our stakeholders.

Improvement: We strive to continuously improve the implementation of our mission through efficient assessment and evaluation processes.

Identity: We take pride in the Purdue University and Indiana University affiliations, while striving to advance the IUPUI campus identity, image, and reputation.

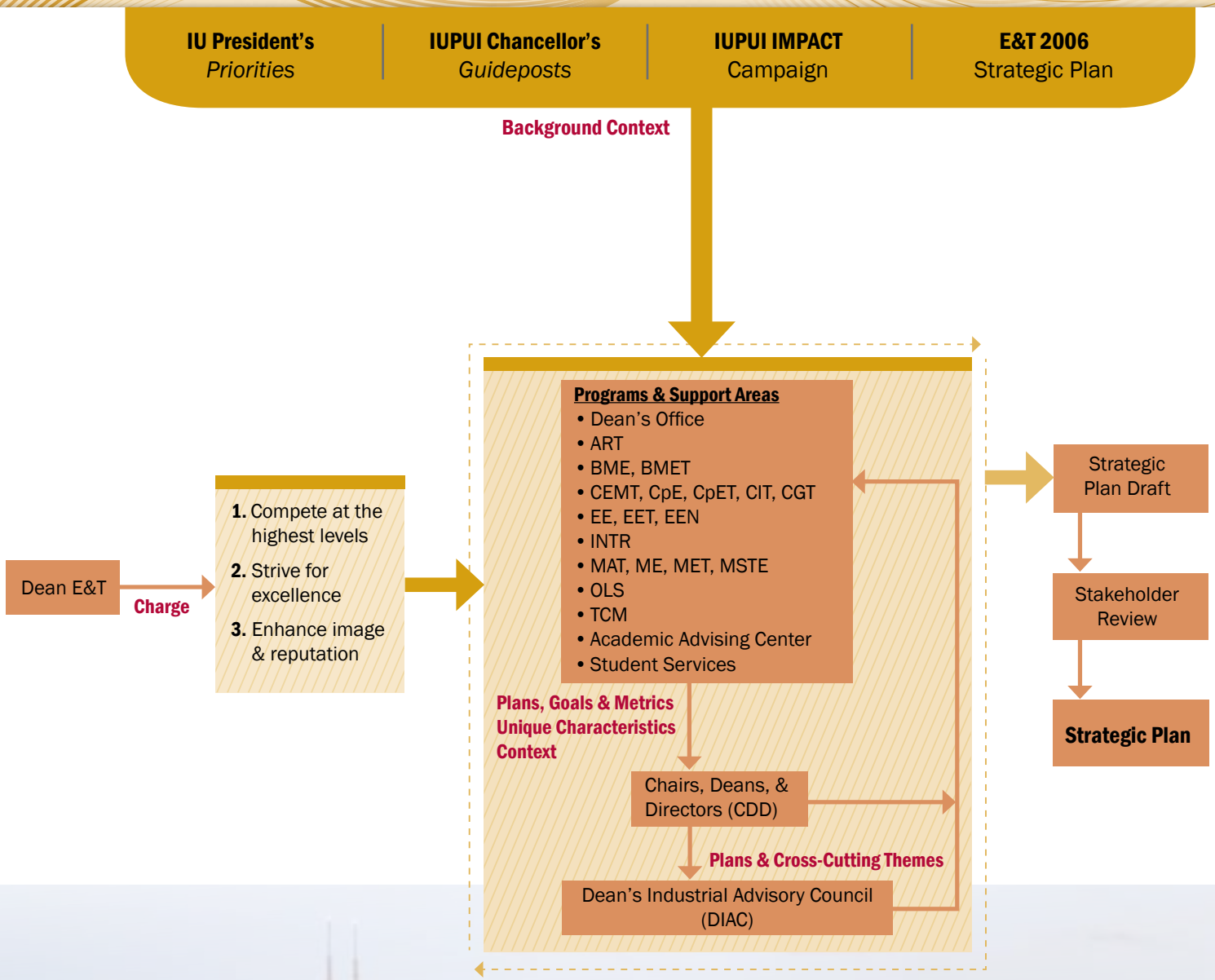
B. Process

The process to revise the strategic plan for the Purdue School of Engineering and Technology, IUPUI, began in the spring of 2011. The dean of the School initiated the process by challenging each department and support area, led by department chairs, associate and assistant deans, and directors, respectively, to engage their faculty and staff to consider what it means in their areas of responsibility to:

- Compete at the highest levels;
- Strive for excellence; and
- Enhance image and reputation.

Given this charge, along with the background context provided by the following documents: i) Indiana University President's Priorities; ii) IUPUI Chancellor's Guideposts; iii) priorities of the IUPUI IMPACT Campaign; and iv) the School's strategic plan from 2006, each department and support area shared strategic goals with the chairs, deans, and directors (CDD) administrative committee for feedback. In parallel, the dean hosted a series of lunch-and-learn sessions with faculty and staff from the various programs and support areas of the School to acquire additional information about points of pride, areas of distinction, challenges, and opportunities for strategic advancement. From these discussions, a collection of cross-cutting themes emerged and were summarized and provided as input to the Dean's Industrial Advisory Council (DIAC). Based on the additional feedback provided by the DIAC, a draft strategic plan emerged for stakeholder review. Figure B.1. on page 5 illustrates the overall process.

Figure B.1. School of Engineering and Technology Strategic Planning Process



C. Strategic Initiatives

The plan is organized around five strategic areas, as summarized in figure C.1. on page 7, which support the overall IUPUI campus mission:

1. Best Practices
2. Undergraduate Programs
3. Graduate Programs, Research, and Creative Activities
4. Civic Engagement
5. Diversity

Several representative initiatives are described for each strategic area, accompanied by actions to support the attainment of each initiative. Also, for each action, a summary table of assessment metrics is located in an assessment document. The School's CDD administrative committee will establish a baseline and five-year goals for each metric.

Adopting terminology from ABET, Inc., data for the assessment metrics will be collected via processes that identify, collect, and prepare data to evaluate the attainment of a given initiative. Relevant direct, indirect, quantitative, and qualitative measures will be used as appropriate. Subsequently, the assessment metrics will be evaluated via processes for interpreting the data and evidence accumulated through the assessment processes. Evaluation will determine the extent to which strategic initiatives are being attained. The strategic plan is intended to be dynamic, undergoing continuous improvement as a tool to communicate and evaluate the strategic direction of the Purdue School of Engineering and Technology, IUPUI.

- Compete at the Highest Levels
- Strive for Excellence in Core Mission
- Enhance Image and Reputation

Figure C.1. Purdue School of Engineering and Technology, IUPUI Strategic Areas

Vision

To be recognized as one of America's premier urban schools of engineering and technology.

Themes

- Compete at the highest levels
- Strive for excellence in core mission
- Enhance image and reputation

Mission

Serve the greater Indianapolis metropolitan area, the State of Indiana, and the nation by providing a high-quality learning environment informed through the discovery and dissemination of knowledge via the scholarship of teaching and learning, research and creative activities, and civic engagement.

I. Best Practices

Invest in people and provide fiscal stewardship, effectiveness, and transparency in program investments and resource allocation to nurture and advance the School's intellectual assets.

II. Undergraduate Programs

Excel in the delivery of instruction, the scholarship of teaching and learning, advising, and student services to support extraordinary student success.

III. Graduate Programs, Research, and Creative Activities

Position the School as a pillar of the IUPUI research campus advancing strategic research foci, including health and life sciences, while offering relevant graduate programs of regional and national need.

IV. Civic Engagement

Expand role and value of the School as an Indiana economic development mechanism through productive partnerships with business/industry, government, community, and other academic institutions.

V. Diversity

Pursue excellence in our core mission by advancing a multi-faceted culture of diversity that seeks, values, and embraces diversity in all of its forms.

1.0 Best Practices

Initiative

1.1. Recruit, retain, and reward excellent faculty and staff

Action

1. Offer salaries and start-up packages that are competitive with aspirational peers.

2. Create incentives and rewards to encourage sustained contributions, leadership, and teamwork.

3. Establish professorships and increase the number of endowed chairs of excellence.

4. Enhance opportunities for professional development for faculty at all stages of their careers.

5. Improve mentoring of faculty at all ranks.

6. Promote a welcoming and nurturing climate that enhances the work experience for all faculty and staff of the School and celebrates their accomplishments.

Initiative

1.2. Recruit, retain, and graduate better-prepared students

Action

1. Increase the percentage of E&T students who are members of the IUPUI Honors College.

2. Develop degree-specific honors programs that include an entrepreneurial experience and culminate in an undergraduate thesis.

3. Increase the number of undergraduate E&T students that participate in research, internship, service learning, and experiential learning (RISE) experiences; increase opportunities for entrepreneurial and business decision making experiences for students.

4. Increase undergraduate scholarships and graduate fellowships through endowed gifts that make a systemic impact in perpetuity.

5. Increase capacity for graduate programs, while reducing impediments to the Ph.D.

6. Increase graduate assistantship offers to highly qualified students earlier on in the recruitment year.

7. Promote articulation agreements with Ivy Tech, engineering dual-degree programs with Butler, Marian, and others, and '2+2' and '3+2' programs with domestic and international partner institutions.

8. Secure an increased percentage of IUPUI and IU internal support for graduate students, including teaching assistantships, fellowships, block grants, internal research awards, etc.

Initiative

1.3. Enhance fiscal stewardship, effectiveness, and transparency in program investments and resource allocation

Action

1. Adjust the School and departmental base budgets on a more frequent basis to better reflect revenue streams, reoccurring obligations funded via cash, and performance.

2. Strive to increase departmental base budgets thereby decreasing unbudgeted expenditures at the School level and decreasing ad hoc financial requests from departments and/or programs.

Initiative

1.4. Leverage the strengths of shared governance, including ownership and responsibility for goals, initiatives, and actions among the faculty, staff, and students

Action

1. Involve faculty, staff, and student participation in planning and implementing School goals through the E&T Faculty Senate, the E&T Staff Council, and the E&T Student Council, respectively, as well as other appropriate shared governance mechanisms.

Initiative

1.5. Increase regional, national, and international visibility

Action

1. Leverage the Purdue University and Indiana University affiliations, while advancing the IUPUI identity.

2. Promote programs that provide a basis for national distinction and differentiation.

3. Increase faculty fellows, senior members of professional societies, and faculty serving as editors of journals and books.

4. Increase the number of faculty serving as leaders of professional organizations.

2.0 Undergraduate Programs

Initiative

2.1. Excel in the delivery of instruction and the scholarship of teaching and learning

Action

1. Enhance our quality educational programs, as evidenced by external accreditation and feedback from stakeholders.

2. Improve curricula on a continuous basis to keep all offerings relevant and responsive to stakeholder needs.

3. Increase competitive proposal submissions in the areas of course, curriculum, and laboratory improvements, as well as innovative pedagogy, course delivery, and STEM education and talent expansion.

4. Increase publications in peer-reviewed journals and other outlets dedicated to the scholarship of teaching and learning.

5. Measure activity and impact of the delivery of instruction and the scholarship of teaching and learning and link to the continuous improvement process.

6. Measure the career and professional accomplishments of our graduates and link to the continuous improvement process.

7. Pursue gifts and reallocate resources to invest in innovative teaching laboratories.

Initiative

2.2. Improve undergraduate program rankings

Action

1. Increase freshmen retention and 4-year and 6-year graduation rates.

2. Increase average SAT/ACT scores of incoming freshmen and number of freshmen in the top 10% and top 25% of high school class.

3. Increase percentage of alumni making gifts.

4. Promote undergraduate research and creative activity accomplishments of our students to peers and recruiters.

Initiative

2.3. Promote effective advising, student support, and career development practices

Action

1. Improve student performance and student satisfaction through effective advising, first-year experience courses, co-curricular programming, and career development.

3.0 Graduate Programs, Research, and Creative Activities

Initiative

3.1. Define research foci that build upon faculty talent, established track records, and prior investments

Action

1. Leverage the IUPUI health and life sciences designation and resources by strengthening capabilities in biomaterials, biomechanics, cardiovascular engineering, nanotechnology, and health-related information technology.

2. Maximize the visibility and synergy offered through the Richard G. Lugar Center for Renewable Energy to support research in renewable energy and alternative energy.

3. Strengthen Indiana's long tradition of being a leader in automotive manufacturing and assembly by enhancing automotive research capabilities, including automotive-safety research through the Transportation Active Safety Institute (TASI) and advanced manufacturing engineering and technology expertise.

4. Support research and development broadly in information technology, including: i) innovative online learning software through the Cyberlab; ii) information assurance; and iii) intelligent sensing and imaging.

5. Advance STEM education, leadership, and workforce development.

Initiative

3.2. Increase joint proposals for research and development with partners

Action

1. Develop tightly coupled collaborations with major corporations that are global technology leaders to compete for extramural funding.

2. Provide seed funding and cost share to encourage industry projects of larger scale or with longer time horizons outside current critical paths or that might not be otherwise possible.

3. Increase opportunities for faculty to work on-site with industry partners to learn about opportunities and challenges and how their expertise can add value.

4. Strengthen collaborations with Purdue University, W. Lafayette (PUWL), especially in areas in which the School complements PUWL strengths and when PUWL infrastructure adds competitive advantage.

Initiative

3.3. Offer innovative graduate degree programs and certificates that address regional needs and capitalize on strengths of Indianapolis

Action

1. Expand professional Master's programs and certificates in niche areas that will distinguish the School nationally.

2. Increase graduate course offerings, leveraging partnerships with PUWL and others.

3. Developed packaged courses with value-added services for industry and governmental partners.

Initiative

3.4. Increase graduate program rankings

Action

1. Improve communication and marketing of research and creative activity accomplishments of our faculty and students to peer and aspirational institutions and employers.

2. Increase mean GRE scores.

3. Increase the number of applicants thereby decreasing the acceptance rate.

4. Increase annual total research expenditures.

5. Increase average research expenditures per faculty member.

6. Increase number of Ph.D. students advised per faculty member.

7. Increase publications in peer-reviewed journals and top-tier conferences dedicated to research.

8. Enhance assessment and evaluation processes for all graduate programs

Initiative

3.5. Improve infrastructure

Action

1. Provide cost share for grants and contracts that address critical infrastructure needs.

2. Develop a technical support infrastructure commensurate with productivity and aspirations.

3. Develop a rigorous space utilization analysis and plan, with well-defined metrics, for allocating research space.

4. Pursue options for meeting space needs, including on-campus and off-campus solutions.

4.0 Civic Engagement

Initiative

4.1. Expand the School's role and value as an Indiana economic development mechanism

Action

1. Track and promote the number of graduates that remain in Indiana after graduation and contribute to the economic vitality of the state.

2. Promote how the School's major research foci strengths align with Indiana economic development opportunities.

3. Increase partnerships with Indiana economic development opportunities being facilitated by entities, such as BioCrossroads, Conexus, Energy Systems Network, and Techpoint.

4. Increase the transfer of technology and intellectual property to business/industry.

5. Enhance the K-12 STEM pipeline through outreach to K-12 students and teachers.

5.0 Diversity

Initiative

5.1. Increase the percentage of underrepresented faculty, staff, and students

Action

1. Monitor data provided by the IUPUI Office of Equal Opportunity to compare incumbency to availability to determine where the School needs to make greater efforts to reach parity and diversity in the faculty and staff workforce.

2. Align the School's Affirmative Action Plan to IUPUI's diversity performance indicators for faculty and staff.

3. Develop a more effective marketing strategy and recruit more effectively from high schools, community colleges, and colleges and universities with substantial populations of underrepresented students.

4. Increase the number of Ph.D. students from other institutions that present guest lectures, seminars, and are involved in other activities with E&T student organizations, such as NSBE, SWE, and SHPE.

5. Increase the number of '3+2' programs with Historically Black Colleges and Universities (HBCUs).

6. Increase scholarships, fellowships, and other forms of support for underrepresented students.

7. Partner with the Purdue School of Science, the IU School of Education, and K-12 schools to understand and address the needs of at-risk students.

Thank you

The Purdue School of Engineering and Technology, IUPUI, is deeply grateful for the many and diverse individuals who have invested time, energy, research, insight, scholarship, strategic thought, and planning into the School to make it the thriving entity that it is today—and cast an even greater vision and plan for the future. Our sincerest thanks goes to each member of our student body, staff, faculty, friends and alumni who have contributed to our Strategic Plan, and especially to those on our Chairs, Deans & Directors (CDD) administrative committee and the Dean's Industrial Advisory Council (DIAC) for their considerable role in this invaluable endeavor.

Dean's Industrial Advisory Council (DIAC)

Dave Acton
University Liaison
Naval Surface Warfare Center, Technology Engagement Office

Jerry Arthur
Former Chairman
Isogen

Joe Bentley
Vice President, Power Delivery
Indianapolis Power & Light

Stan Bentley
President
Diversified Systems, Inc.

Jason Bush
Director of Laboratory Operations
AIT Laboratories

Wayne Eckerle
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Cummins, Inc.

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ABB, Inc.

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