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## Testimony

Joint Legislative Budget Hearing on Economic Development  
Hamilton Hearing Room B, 2nd Floor  
Legislative Office Building  
Albany, New York

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**and Systems (CATS)**  
**Professor of Mechanical Engineering**

Good afternoon, and thank you Chairpersons Young, Farrell, Boyle, and Schimminger, and members of the Senate Finance and Assembly Ways and Means Committees. I am Daniel Walczyk, Director of the Center for Automation Technologies (CATS) at Rensselaer Polytechnic Institute since 2014 and also a Professor of Mechanical Engineering.

Details of my background are pertinent to this discussion as I represent homegrown talent shaped professionally by the CAT program. I grew up outside of Syracuse, NY in the 1960's and 70's and attended three New York schools for various engineering degrees including Onondaga Community College, Syracuse University, and Rensselaer. My seven years in industry were also with New York companies – two years with an automation machine builder, and five years with GE. After four years of graduate study in Massachusetts at MIT in advanced manufacturing, I returned to New York to become a faculty member at Rensselaer and immediately began working with the CATS. Up to that point in time, it was heartbreaking for me to see so many New York manufacturers downsize, offshore their production or close their doors because they could not compete. Naturally, I leapt at the chance to lead the CATS and be a part of the solution.





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As such, I thank you for your leadership that has helped create the Centers for Advanced Technology and the Centers of Excellence at Empire State Development/NYSTAR. Without the leadership of the Senate, Assembly, and Governor's office, I would not have the wonderful opportunity to be Director of this unique Center.

New York State has a rich and somewhat unique history of recognizing and supporting university-led research to create, nurture, and support businesses. The Centers support institutions, businesses, and in-turn our communities. The 26 various Centers in New York State touch every corner from the Western region, down through the Southern Tier, to New York City, Long Island, the North Country, and here in the Capital Region.

Over the last five years, we have generated a combined \$4.9 billion in economic impact and helped create or retain 22,396 jobs. This is thanks to what I believe is a modest annual state investment of \$25.7 million. Our Centers are uniquely positioned because they utilize campus-wide expertise to meet industry needs while accelerating the transition of innovations into the commercial sector.

I would now like to turn to my work at Rensselaer as the Director of the Center for Automation Technologies and Systems.

The Rensselaer CATS, a New York State Center for Advanced Technology (CAT) was founded and designated for 10 years in 1989, and re-designated in 1999 and again in 2009. The Center assists client companies with applied research and development (R&D) in advanced manufacturing, robotics and automation to help them meet specific business objectives such as increasing productivity, profitability, domestic and international competitiveness, and the number and quality of products offered so that they can grow and create jobs. The center partners with NY State companies that build manufacturing equipment and systems to offer clients complete solutions to a wide range of manufacturing problems (i.e. from





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problem definition to pilot plant demonstration) after de-risking development in our labs. According to data supplied to Empire State Development over the past 10 years (2005-2015), CATS has generated a combined economic impact of \$328 million and helped create or retain 1050 jobs for our clients from a state investment of about \$9 million.

One particular success story of how CATS helped a NY small business grow and expand is Ecovative Design, LLC. This biomaterials company, famous for mushroom packaging, was started in 2007 by two Rensselaer alumni and has grown into a 70+ person firm with a corporate/R&D facility in Green Island and a dedicated manufacturing facility in Troy. Through a series of five R&D projects between 2011-2015, the CATS helped Ecovative technical staff develop the company's new line of biocomposite materials. As the company has grown, Ecovative has helped lessen the 'talent drain' by hiring graduates to work as engineers and scientists in New York. These employees have gone on to pay taxes, and to contribute to the local economy.

In another success story, the CATS and Kintz Plastics, Inc. in Howes Cave patented a new process called Specialized Elastomeric Tooling (SET) to make advanced composite parts that reduces manufacturing costs, cycle time, energy consumption and waste by orders-of-magnitude compared to conventional methods. Kintz eventually sold the patent to two of my former students, Drs. Casey Hoffman and Jaron Koppers, both of whom started Vistex Composites, LLC in 2015. The CATS has helped Vistex commercialize SET technology through a series of six R&D grants. Vistex is currently a 3-person start-up with commercial customers and angel investment located in Rotterdam.

In closing, thank you again for your support of the CAT and COE programs. As I mentioned, Rensselaer is proud to have contributed \$328 million to the New York State economy with the State's \$9 million investment, but we are just one piece of the \$4.9 Billion





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contributed by all Centers. Recognizing the promising economic impact of the Centers while acknowledging the demands on state resources, we request that each Center be funded at the \$1.6 million level in the SFY17-18 budget in order to magnify the returns on investment already achieved through the CAT and COE programs.

I welcome any questions that you may have.

