

## **NOTICE OF FUNDING OPPORTUNITY**

### **Eligible Institutions: Research Universities of South Carolina**

#### **ANNOUNCEMENT**

Notice of Funding Opportunity for Collaborative Research Grants as funded by the SCRA-Academia Collaboration Team (SACT)

#### **AWARD OVERVIEW**

<b>Type of Award</b>	Competitive Grant
<b>Solicitation Opens</b>	June 15, 2020
<b>Pre-Application Form Submission Deadline</b>	September 15, 2020 at 5:00 PM EDT
<b>Full Application Submission Deadline</b>	December 15, 2020 at 5:00 PM EDT
<b>Total Funding, <i>provided by SCRA</i></b>	\$1,800,000
<b>Maximum Award</b>	\$1,800,000
<b>Minimum Award</b>	\$600,000
<b>Performance Period</b>	36 months
<b>Eligible Lead Applicants</b>	Clemson University Medical University of South Carolina University of South Carolina System

#### **PROGRAM DESCRIPTION**

SCRA fuels South Carolina's innovation economy by accelerating technology-enabled growth in academia, entrepreneurship, and industry. SCRA works with public and private sectors, including industry, to identify market trends and validate the commercial relevance of academic research that SCRA funds.

SCRA and the Research Universities (RUs – comprised of Clemson University, Medical University of South Carolina and University of South Carolina) executed a Strategic Collaboration Agreement to build the state's innovation economy (Collaboration Agreement), which is located in Appendix A. The Collaboration Agreement outlines the services SCRA will provide to deliver on the following goals:

- Increase research funding via multi-institutional grants and other new funding vehicles
- Create and advance early-stage, technology-based companies
- Increase total capital investment
- Form public/private partnerships generating growth of the state's industry

The signatories of the Collaboration Agreement agreed that it would serve as the foundation for SCRA's support not only to the RUs but to all public academic institutions within the state. To provide guidance

to SCRA on the design and implementation of programs to fulfill the Collaboration Agreement, the SCRA-Academia Collaboration Team (SACT) was formed.

## **SCOPE**

SCRA is requesting applications from multi-institutional, collaborative teams that will provide measurable outcomes within the scope of this Funding Opportunity. Proposals must advance commercially relevant research, develop state-wide research infrastructure, or acquire equipment that will be used by multiple RUs, Comprehensive Teaching Universities (CTUs), and Technical Colleges (TCs) (collectively “Constituent Institutions”) and be made available on a state-wide basis. Proposals must establish how the funding aligns with the Research Topic(s) outlined in Table 1 and will lead to obtaining follow-on funding from sources such as industry and the federal government to continue development.

Priority will be given to applications that also engage one or more South Carolina-based industry partners to address key business challenges and opportunities. For applications engaging with an industry partner, applicants must provide an accompanying Letter of Support verifying the unmet need or a Letter of Commitment if the industry partner is providing cost share. Cost share from an industry partner may be cash or in-kind contributions.

The ideal proposal will be based on the complementary or overlapping interests and objectives of academia and industry, where the relationship provides a promising opportunity for:

- multi-institutional collaboration among South Carolina institutions of higher education to achieve greater impact, reach, and efficiency across the state;
- public/private partnerships that leverage interests, assets, and expertise in a manner that fosters sustainable growth of the state’s innovation economy;
- research that is differentiated at the national or regional level; and
- innovations that generate a defensible and differentiated position in the marketplace.

Table 1: Research Topic(s)

<p><b>1. Biomedical Sciences, specifically Medical Devices and Regenerative Medicine:</b></p> <p><b>A.</b> A Medical Device is an instrument, apparatus, machine, implant, in vitro reagent, or other similar or related article, or accessory intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals.</p> <ul style="list-style-type: none"> <li><b>1.A.1. Diagnostics (in vitro/molecular, biosensors, imaging)</b></li> <li><b>1.A.2. Digital Health and Analytics (device software function, health IT, medical device data systems, medical device interoperability, software as a medical device (SaMD), telemedicine, wireless medical devices)</b></li> <li><b>1.A.3. Subspecialties: Cardiovascular, Chronic Disease Management (metabolic diseases, respiratory diseases), Neurology/Brain Injury, Orthopedics, Pain Management, Respiratory, Women’s Health</b></li> </ul> <p><b>B.</b> Regenerative Medicine seeks to restore function by replacing, engineering, or regenerating the cells, tissues, and organs that are degenerative or absent. For Regenerative Medicine, proposals will be accepted for development of Combination Products, which per the Food and Drug Administration (FDA) definition are products composed of any combination of a drug and a device; a biological product and a device; a drug and a biological product; or a drug, device, and a biological product. The drug or biological product included in the Combination Product, however, must already be FDA approved.</p> <ul style="list-style-type: none"> <li><b>1.B.1. Bioprinting/Production (cells, tissues, organs, substrates for all)</b></li> </ul> <p><b>C.</b> In addition, proposals will be accepted to build out a state-wide biorepository that will collect appropriately consented patient samples that can be used for research purposes, including generating data for future funding proposals. A biorepository enables preservation and maintenance of biological specimens and their associated documentation.</p>	<p><b>2. Industry 4.0, including Supply Chain Logistics:</b> Industry 4.0 is the convergence of digital information and communications technologies with manufacturing processes to drive real-time control of energy, productivity, and costs across factories and companies. This concept includes commonly understood ideas as Smart Manufacturing, the Digital Thread, and Industrial Internet of Things (IIoT).</p> <ul style="list-style-type: none"> <li><b>2.1. Logistics/Risk Management/Supply Chain Management: must involve some aspect of Industry 4.0</b></li> <li><b>2.2. Smart Data and Cloud Computing for Manufacturing (Future Cyber-Physical Manufacturing Research)</b></li> <li><b>2.3. IIoT: creation of innovations including smart products, smart production systems, smart factories, and smart logistics running in a decentralized and dynamic fashion</b></li> </ul>
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- 3. Cybersecurity:** Cybersecurity is the art of protecting networks, information systems, and data from unauthorized access or criminal use and the practice of securing confidentiality, integrity, and availability of information. The goal of this research field is to uncover solutions for key vulnerable systems including infrastructure, networks, hardware, software, and cloud computing. Potential solutions may involve Artificial Intelligence, Machine Learning, Internet of Things, and blockchain, but are not limited to these approaches.
- 3.1. Information security and adaptive incident analysis\***
  - 3.2. Cybersecurity of real-time manufacturing and industrial processes**
  - 3.3. Innovative security and access solutions for healthcare**
  - 3.4. Software technology that helps solve human behavior problems**

*\*Adaptive Incident Analysis involves developing automated responses to security breaches that can be immediate and do not require human intervention, such as automatically disabling access privileges and creating firewalls until a human element is able to respond.*

## FUNDING INFORMATION

### I. Funding Amount

To encourage multi-institutional research across the state, the maximum award amount that can be requested under this solicitation is increased with the number of RUs included on the application.

SCRA will award up to \$600,000 if one RU is involved in the application, up to \$1,200,000 if two RUs are involved in the application and up to \$1,800,000 if three RUs are involved in the application. See Table 2 below for an overview of allowable award amounts.

Table 2. Allowable Award Amounts

RU Applicants	SCRA Award	Average Annual Tranche over 3 years
One	\$600,000	\$200,000
Two	\$1,200,000	\$400,000
Three	\$1,800,000	\$600,000
Minimum award amount	\$600,000	\$200,000

*\*Amounts are inclusive of 20% indirect costs (if applicable).*

### II. Disbursement of Funds

Funds will be disbursed annually in three tranches, provided the related milestones have been achieved as outlined in the budget proposal. The budget does not need to be split evenly across the three years. To comply with the SCRA budget for Year 1, SCRA reserves the right to negotiate budgets with awardees for the first year. Before the next tranche of funds will be released, Recipients will be required to submit interim progress reports demonstrating achievement of the project's milestones and an accounting for expenditure of amounts already received. The award document will specify how these reports must be submitted.

## **ELIGIBILITY CRITERIA**

Only RUs in South Carolina are eligible to submit applications under this Funding Opportunity. For applications submitted by a Comprehensive Teaching University (CTU) or Technical College (TC), please refer to the separate Funding Opportunity that is specific to public CTUs and TCs in South Carolina.

All applications must include collaboration with a minimum of one additional degree-conferring, public institution of post-secondary education in South Carolina, which includes RUs, CTUs, and TCs. Collaborations among multiple RUs expand the allowable maximum award amounts. Proposals from collaborating institutions must be submitted from a single institution that has been identified as the Lead Applicant. If two or more Pre-Application Forms are submitted that propose the same research and collaborations, both forms will be returned with the request that the institutions identify a single Lead Applicant for resubmission.

Previous Principal Investigators (PIs) of SACT grant funding are not eligible to submit under this solicitation during the performance period of their previous grant.

## **APPLICATION PROCESS AND DATES**

The application process for this program comprises the following two phases. No forms, applications, or supplemental material submitted in response to this solicitation will be accepted after their respective deadlines. Applicants who fail to complete an application in accordance with this solicitation and the application guidelines are subject to disqualification at the outset of the review period or any time during the review period.

### *I. Pre-Application Form*

Complete the Pre-Application Form found at [www.scra.org/sact-grant](http://www.scra.org/sact-grant). This form is mandatory and must be signed by the Authorized Organizational/Institutional Representative. Pre-Application Forms must be submitted by the Office of the Vice President/Vice Provost of Research of the Lead Applicant's institution.

Lead Applicants are responsible for the technical review and prioritization of research proposals from their institutions, based on the criteria outlined in "Review Criteria," for down-selection to the maximum number of submissions. Each RU may submit up to a maximum of two Pre-Application Forms as Lead Applicant under this solicitation.

The deadline for submission of Pre-Application Forms is September 15, 2020.

### *II. Full Application*

Pre-Applications selected to submit a Full Application will receive an invitation from SCRA by September 30, 2020. The Full Application will be sent to invited Pre-Applicants. The list below outlines the sections of the Full Application.

- A. Cover Page
- B. Project Summary

- C. Project Description
- D. Intellectual Property
- E. Project Collaboration
- F. Plans to Leverage Funding
- G. References Cited
- H. Biographical Sketches
- I. Budget
- J. Budget Justification
- K. Cost-share Commitment Letters
- L. Management Plan
- M. Current and Pending Support

The deadline for submission of the Full Application is December 15, 2020.

The SACT will convene in Q1 2021 to recommend the awards based in part on the results of the external technical review and the strategic review conducted by the SACT. Based on the vote of SACT members in attendance (in person or via phone), recommendations for awards will be provided to SCRA for a final funding decision. For all full applications, the SACT will provide a summary of the reviewers' comments after the Q1 2021 review session.

## **REVIEW CRITERIA**

Pre-Application Forms will be evaluated pursuant to the Strategic Criteria and checked against other Pre-Application Forms to ensure no duplication of research objectives. Full Applications will be evaluated pursuant to both the Technical and Strategic Criteria. SCRA will engage external subject matter experts to conduct the technical review, the results of which will be provided to the SACT. The SACT then will conduct a review of the Strategic Criteria, which will have been further informed by the results of the technical review, to determine each application's score.

### Strategic Criteria:

Applications that qualify for funding will be scored based on their ability to meet the criteria outlined below. Additionally, most criteria will be scored on a scale from 1-5, with 5 being the highest score and 1 being the lowest. SCRA places special emphasis on an application's ability to impact the state's innovation economy and, therefore, will score that criterion on a scale from 1-10.

- Impact the state's innovation economy (e.g., generation of new jobs, startups, intellectual property, workforce development, Foreign Direct Investment attracted, number of organizations affected and/or number of people affected). Scores for this category will range from 1-10.
- Substantial collaboration with one or more CTUs or TCs, in which "substantial collaboration" is defined as a subaward amount no less than 15% of the total project budget to these institutions. If an application includes no substantial collaboration with a CTU or TC, it will receive a score of 1; if it includes substantial collaboration with one CTU or TC, it will receive a score of 3; and if it includes substantial collaboration with more than one CTU or TC, it will receive a score of 5.

- Demonstrate significant translational relevance (clearly defined and validated market need and size of potential impact on field). Scores for this category will range from 1-5.
- Demonstrate commitment from the applicants' institutions and/or industry partners with matching funds.

Cost share criteria:

- Must be documented in the full application
- Academic institutions' cost share must be in the form of cash contributions and excludes Federal dollars
- Industry partner contributions will be permitted to be cash or in-kind (e.g., access to facilities, employee time)

Scores for this category will range from 1-5 based on the following table:

Matching funds amount	Score
<10%	1
≥10% and <25%	2
≥25% and <50%	3
≥50% and <75%	4
≥75%	5

- Attract follow-on funding (number of potential sources, amount of funding available, and prospects for project continuation after grant ends). Scores for this category will range from 1-5.
- Measurable interim and final milestones during the performance period (clearly defined and understandable, objectively measured). Scores for this category will range from 1-5.
- Involve South Carolina-based, for-profit industry partners (Letter of Support required, outlining the unmet business need). If an application involves no South Carolina-based industry partners, it will receive a score of 1; if it involves one industry partner, it will receive a score of 3; and if it involves multiple industry partners, it will receive a score of 5.
- Technology has potential utility across multiple South Carolina-based industry sectors. Scores for this category will range from 1-5.

Technical Criteria:

The external technical review will be conducted based on criteria from both the National Science Foundation Merit Review Criteria and the National Institutes of Health Definitions of Criteria and Considerations for Research Project Grant Critiques on a scale from 1-5, with 5 being the highest score and 1 being the lowest. The criteria are as follows:

**Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and

**Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to:
  - a. advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
  - b. benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts? Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on sound rationale? Are potential problems, alternative strategies, and benchmarks for success presented?
4. Are the PIs, collaborators, and other researchers well-suited to the project? Do investigators across the multiple Constituent Institutions have complementary and integrated experience; are their leadership approach, governance, and organizational structure appropriate for the project?
5. Are there adequate resources available to the PI(s) (either at the home organization or through collaborations) to carry out the proposed activities?

In addition to the criteria listed above, the external technical review will also include the following criterion:

**Follow-on Funding:** Applications will be reviewed based on the potential, once the research is completed, to obtain additional extramural funding that includes, but is not limited to, federal funding and industry-sponsored research.

## AWARD START DATE

The award start date will be determined by the date the contract is executed by SCRA and the PI's institution, but no later than June 30, 2021. Subawards will flow down from the PI's institution.

## USE OF FUNDS

General: The indirect rate is not to exceed 20%. Equipment is not eligible for indirect expenses.

Salary: Salary support is an allowed expense so long as it is paid to an employee of a Constituent Institution. Student stipends are an allowable expense so long as the student time charged reflects the actual time the student spent working on the proposed research. Salary support for industry partners is prohibited, but in-kind contribution of time from the industry partner will be taken into consideration if documented on the Budget Form.



Restrictions: The award may not be used for professional fees or publication fees, etc. Expenses related to conference attendance and travel may not exceed 1.5% of the total project amount.

Equipment: Any proposed equipment purchase exceeding \$25,000 must be made available to all Constituent Institutions and include a Management Plan as described in section “Full Application Contents.” Indirect expenses are not allowed on equipment.

## **AWARDEE INSTITUTION REQUIREMENTS**

Awardee institutions must provide the necessary facilities and infrastructure for the research and accept the conditions of the award. Additionally, Awardee institutions must adhere to current federal and state regulations, including those regarding financial conflict of interest and research misconduct. Institutions must assure compliance with the prevailing national guidelines for animal and human studies and provide proper oversight of the grant funds.

Awardee institutions must safeguard the rights and welfare of individuals who participate as subjects in research activities by reviewing proposed activities through an Institutional Review Board (IRB) as specified by the [U.S. Department of Health and Human Services Office for Human Research Protections, HHS OHRP](#). Additionally, the grantee’s institution must assure appropriate governance of animal studies. If the research involves either animal or human subjects, IRB approval and Institutional Animal Care and Use Committee numbers are not required at the time of application submission but must be provided for final signature of the grant agreement.

## **CONFIDENTIALITY AND PUBLIC DISCLOSURE**

Confidentiality is important to SCRA; therefore, please do not include confidential information in grant applications. The project summary, applicant’s name, and institutional affiliation(s) for awarded applications may be used by SCRA for promotional and marketing purposes at SCRA’s sole discretion. Any potential promotion and marketing will be coordinated with the PI.

Applicants acknowledge that SACT member institutions may conduct research that is related to or competitive with applications submitted by applicants. However, SACT members commit not to use information submitted by applicants in connection with such research.

## **INTELLECTUAL PROPERTY GUIDELINES**

SCRA, the SACT members, and their affiliated institutions do not claim any rights whatsoever to patents, copyrights, trademarks, or any other intellectual property (IP) created as a result of work sponsored under this grant, except to the extent an institution receives a grant and claims IP pursuant to that institution’s IP policy. SCRA may provide copies of all applications to the respective institution’s technology transfer office or equivalent to make them aware of the collaboration and potential joint IP.

Awardees should take measures to ensure protection of any IP in accordance with federal and institutional requirements.

## **SCIENTIFIC REPORTING & REVIEW OF PROGRESS**

Awardees will be required to submit interim mid-year and annual progress reports as well as a final report at the conclusion of the performance period.

Mid-Year Progress Report: Mid-year progress reports will be due at the midpoint of each year of the performance period. The mid-year progress report will be a two-page fillable PDF document that will allow the Awardee to provide an update on the current status of the project, key findings to date, next steps and communication of potential problems.

Annual Progress Report: A more detailed annual progress report will be due no later than the end of each year of the performance period (Year 1 and Year 2). Reports may be submitted early if all related milestones have been achieved for the performance period. Annual reports will include a confirmation of progress toward milestones, an accounting for expenditure of amounts already received, publications resulting from the project, new IP generated during the project, plans for pursuing follow-on funding (including submission dates), and new collaborations (both commercial and academic) that have resulted from the project. Annual progress reports must be received and demonstrate achievement of the project's milestones before the next tranche of funds can be released. The award document will specify how these reports must be submitted and the contents.

Final Report: In place of an annual progress report at the conclusion of Year 3, Awardees are required to provide a final report within 30 days of the end of the performance period. Similar to the annual report, the final report will include a confirmation of progress toward milestones, outcomes of project objectives, an accounting for expenditure of amounts received, publications resulting from the project, new IP generated during the project, plans for pursuing follow-on funding (including submission dates), and new collaborations (both commercial and academic) that have resulted from the project.

All publications resulting from the performance of the funded project shall acknowledge SCRA as a funding source. Copies of any such publications will be submitted to the SCRA Director of Academic Innovations at [academicinnovations@scra.org](mailto:academicinnovations@scra.org). SCRA will continue to follow longitudinal progress of the technology and reserves the rights to request annual updates related to the project for five years after project closing.

## **CHANGES TO PROJECT SCOPE**

A significant change in the project scope of work requires approval by SCRA. Any such requests should be submitted to [academicinnovations@scra.org](mailto:academicinnovations@scra.org).

## **COMPLIANCE AND ADMINISTRATIVE MATTERS**

SCRA will assure compliance with program policies and will be responsible for all administrative matters.

The PI and his or her institution are solely responsible for execution of the project, including compliance with all relevant federal and state laws and guidelines. The awards will be made via contracts between SCRA and the lead institutions. Subawards and cost share, if applicable, will be the responsibility of the PI's institution.

Extension of the performance period beyond 36 months will not be permitted under any circumstances.

SCRA reserves the right to refine and amend policies, as required.

If there are any questions regarding this Funding Announcement, please send them to Kella Player Hanna at [academicinnovations@scra.org](mailto:academicinnovations@scra.org).

## **HOW TO APPLY**

The Pre-Application Form is a fillable PDF document. This form must be signed by and submitted from the Vice President/Vice Provost of Research of the Lead Applicant's institution. Each Lead Applicant is limited to submitting two Pre-Application Forms. Send completed Pre-Application Forms to [academicinnovations@scra.org](mailto:academicinnovations@scra.org).

## **INFORMATION SESSION WEBINAR:**

SCRA will host an Information Session webinar on June 30, 2020 at 11:00 AM EDT. Register for the webinar at [www.scra.org/sact-grant](http://www.scra.org/sact-grant). SCRA will send information on how to join the webinar upon registration. The session will also be recorded and subsequently posted on the SCRA website.

## Appendix A

### **Strategic Collaboration Agreement to Build the State's Innovation Economy**

#### **Cover Page**



UNIVERSITY OF  
SOUTH CAROLINA



December 2, 2016

**To:** South Carolina Research Authority (SCRA) Executive Committee

**From:** Joint SCRA / South Carolina (SC) Universities Task Force for Technology-based Economic Development

**Re:** Strategic Collaboration Agreement to Build the State's Innovation Economy

In the interest of accelerating the innovation economy of South Carolina, we are creating this framework of collaboration among and between SCRA, Medical University of South Carolina (MUSC), University of South Carolina (USC), Clemson University (CU), and other members of the academic community of the state. This Agreement lays out the framework and intent of our collaboration. Accompanying it as **Exhibit 1** is the SCRA/Universities Collaboration Scope document created jointly by the SCRA and Universities Task Force (collectively the "Team").

#### **Purpose of the collaboration**

This collaboration is necessary to align existing and prospective resources to advance the innovation economy of the state. The innovation economy includes technology development and commercialization in both the private and public sector and among entities both large and small. The State of South Carolina has many strengths upon which to build, and we intend to use this collaboration to create better focus, alignment, and pace across all stakeholders—public and private—in building the state's reputation and strength in technology development and commercialization.

#### **Scope of the collaboration**

The scope of the collaboration will center on three program areas of excellence focused on specific industry verticals where South Carolina has existing or emerging strengths. These are: Advanced Manufacturing/Advanced Materials; Information Technology; and Life Sciences/Biotechnology. These verticals will be incorporated into the major elements of this collaboration, to include:

- SC Launch
- Shared infrastructure
- Grant services

#### **Participants**

Maintaining broad participation will be a key goal of the collaboration. The core of the collaboration includes SCRA, MUSC, USC, and CU. We plan to recruit and have represented other academic institutions within the state including public and private colleges and universities as well as technical colleges. Furthermore, we expect to have broad participation from other stakeholders such as industry, trade associations, state agencies, etc.

### **Roles within the collaboration**

This strategic collaboration requires that we maintain clear roles. SCRA will focus on convening, facilitating, and resourcing the collaboration from available operating funds. All parties will contribute to achieve the goals of the collaboration.

### **Program management, resourcing and implementation**

The Team has had productive, in-depth discussions about program management, resourcing, and implementation. The Team members agree on the scope of the collaboration as specified in Exhibit 1, that SCRA will manage the implementation, and that the other Team members will support SCRA and other participants in the implementation. Exhibit 1 outlines the requirements for the development of action plans inclusive of different funding scenarios. It is important that the Team establishes the prioritization of the specific program areas and that detailed budgets are developed for each program area to ensure appropriate resource allocation.

### **Governance**

Because the Executive Committee of the SCRA Board of Trustees consists of leaders from each of the primary participants to this collaboration, including the research university presidents as well as the Chair of SCRA, and because the Executive Committee meets frequently and is charged with approving the SCRA strategic and annual operating plans, the Executive Committee is the appropriate governing body for this collaboration. The Team members will present the action plans to the Executive Committee for incorporation into the SCRA annual operating plan for the subsequent fiscal year.

### **Performance goals**

This collaboration will develop specific metrics to ensure success in the following goals:

- o Increased research funding via multi-institutional grants and other new funding vehicles
- o Creation and advancement of early-stage, technology-based companies
- o Total capital investment
- o Public/private partnerships generating growth of the state's industry

The collaboration participants will report at least annually to the SCRA Executive Committee on the progress being made in achieving these metrics.

### **Next Steps**

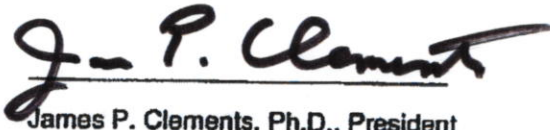
Upon the execution of this Agreement, an SCRA/Academia Collaboration Team (SACT) will be established comprised of one representative from each of the four signatories as well as the state's comprehensive teaching universities and the technical college system. The SACT will oversee the development and implementation of strategies for each of the program areas and corresponding sub-programs.

For University of South Carolina:

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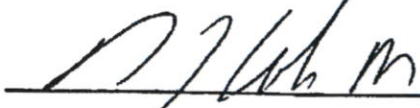
Harris Pastides, Ph.D., President

For Clemson University:

A handwritten signature in black ink, appearing to read "J. P. Clements", written over a horizontal line.

James P. Clements, Ph.D., President

For Medical University of South Carolina:

A handwritten signature in black ink, appearing to read "D. J. Cole", written over a horizontal line.

David J. Cole, M.D., FACS, President

For SCRA:

A handwritten signature in black ink, appearing to read "Robert D. Quinn", written over a horizontal line.

Robert D. Quinn, Executive Director



**Exhibit 1:**

**SCRA / Universities Collaboration Scope**

SCRA and the University team appointed by the three South Carolina research universities (collectively the "Team") have agreed to collaborate on a scope of activities to further research and commercialization in three industry sectors: Advanced Manufacturing/Advanced Materials; Information Technology; and Life Science/Biotechnology. It is recognized that each of those areas needs to be further defined and more focused. This document does not commit any partners to provide specific resources (e.g., staff, funding, etc.). Resource allocations will be agreed upon at a future date.

- 1) **Teamwork:** SCRA will organize its staff based on research areas, industry expertise and regional startup company investment needs. The research universities will designate appropriate staff to work with SCRA to plan and implement specific SCRA-funded activities.
- 2) **Three areas recommended by the universities for SCRA prioritization are:**
  - a) **.SC Launch: Investment in companies, university startup assistance, and Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) grants**
    - Publish and implement criteria, application process, and review process for becoming a client company. Transparency is needed with respect to the decision-making process and award criteria.
    - Bolster mentorship programs for early-stage companies.
    - Host workshops where best practices can be shared.
    - Require participation in activities such as approved incubation or development programs once an award is received.
    - Define success and how to measure it. Specific metrics will be established.
  - b) **Shared Infrastructure: Innovation Centers and specialized equipment**
    - Invest in physical infrastructure that will benefit multiple institutions and facilitate multi-institutional research and commercialization (e.g., specialized, capital equipment and large-scale prototypes).
    - Increase alignment between the use of the SCRA Innovation Centers and input from their respective research universities.
  - c) **Grant services: Multi-institutional grants, SBIR/STTR support, and Experimental Program to Stimulate Competitive Research (EPSCoR) management**
    - Work with the state's academic institutions to identify opportunities for statewide, multi-institutional grants.



- Provide project management of certain statewide, multi-institutional grants, which would include grant identification, serving as fiscal agent, facilitating grant preparation, and other administrative support.
  - Provide cost share for large grant opportunities, where practical.
  - Augment university capabilities in SBIR/STTR grant pursuits, where practical.
  - Provide staff to manage the EPSCoR program under the direction of the EPSCoR Executive Committee.
- 3) Action plans will be developed for each recommendation above. Where appropriate, these plans will include two scenarios: 1. An Industry Partnership Fund (IPF) limit of \$6 million and 2. An IPF limit of \$12 million.
- 4) Based on the Team's prioritization of the recommendations, the Team agrees that all items included within the "Recommendations for Improving SCRA Mission Alignment" document associated with "Education" should be deferred.
- 5) SCRA will review with the research universities during the formation of its annual operating plan development the prioritization of funding to meet its legislative mandates, including this collaboration.