



California Community Colleges Chancellor's Office  
Workforce and Economic Development Division  
**SOLICITATION OF INTEREST**

Fiscal Year 2015-16 Funds

**Connecting Community Colleges to the Maker Movement  
to Build In-Demand STEM/STEAM Skills:**

**INNOVATIONMAKER Investment 3**

(Please submit the attached Letter of Interest  
by 5pm PST on Friday, March 18, 2016, to [innovationmaker@cccco.edu](mailto:innovationmaker@cccco.edu))

The California Community Colleges Chancellor's Office (CCC) *Doing What Matters for Jobs and the Economy* (DWM) framework recognizes the importance of STEM/STEAM to the creative economies of the state. In partnership of the California Council on Science & Technology (CCST), the CCC Workforce & Economic Development Division commissioned a white paper to inform how community colleges can better connect into the Maker movement to complement the student learning environment in ways that foster the 4Cs – critical thinking, creativity, collaboration and communications – in demand by California's regions. Community colleges can use the establishment of a Makerspace as a means to position themselves as a key stakeholder in their region's innovation economy.

This solicitation of interest seeks to identify and network together 10+ colleges, including one lead for the community-of-practice, committed to exploring, setting up, and/or building out their connections to the Maker movement. All Letters of Interests received will be made public in order to facilitate the formation of a community-of-practice. Applicants will be provided with the CCST white paper.

In addition to investment in a Makerspace, funding will ask grantees to plan for the creation of paid work-based learning (WBL)/internship opportunities tied to student participation in the Maker environment through developing outside business/industry partners.

Up to \$10M in funding for this program will come from the SB1070 CTE Pathways Program Grant. The program span is 3-years and will require: 1) \$1 match for every \$3 provided; and 2) campus championship by a team consisting minimally of STEM/STEAM faculty paired with CTE faculty in order to benefit from inter-disciplinary collaboration.

**What is the Maker movement?**

'Making' offers complementary learning environments to the traditional classroom and helps participants develop skills that differ from those developed in traditional student projects and learn-by-doing classes. The spaces housing these activities are called makerspaces, also sometimes referred to as hackerspaces, hacker labs or fab labs. Broadly, they are all interdisciplinary, participatory, peer-supported learning environments where people can design and invent among a community of other makers. Yet, there is great variation in the capabilities and foci of makerspaces, ranging from traditional crafts such as woodworking to the use of digital technologies such as 3D printers and laser cutters. Examples of higher education institutions with Makerspaces include: Stanford University, MIT, University of Maryland, Sierra (Community) College, Portland Community College, and Sonoma State University.

### **Why Science, Technology, Engineering, Art and Mathematics (STEM/STEAM)?**

- The concept helps to inform the capacity of community colleges to prepare students for further STEM/STEAM education and for the STEM/STEAM workforce.
- A strong emphasis is placed in hands-on, inquiry-based learning activities, such as learning about the engineering design process, working directly with STEM/STEAM professionals through internships, and participating in field experiences and STEM/STEAM-related competitions.
- Creativity is an essential component of, and spurs innovation, and innovation is necessary to create new industries in the future, and new industries with their jobs are the basis of our future economic wellbeing.
- Integration and alignment of K-12 and higher-education programs and initiatives with workforce needs to provide greater alignment between systems.
- The development of strong workforce partnerships along work-based learning pathways that promote business and industry engagement in STEM/STEAM education activities at each Makerspace.

**Overview of the California Council on Science and Technology (CCST) Whitepaper:** Titled “*Promoting Engagement of the California Community Colleges with the Maker Movement*”, a copy of the full text will be attached to the RFA release for review and use. The table of content of this white paper follows:

#### **Executive Summary**

##### **Chapter 1: Introduction**

- What is Making?
- What is a Makerspace?
- Impact of the Maker Movement
- What Learning Outcomes are achieved in a Makerspace?
- Why Should the Community College Engage with the Maker Movement?

##### **Chapter 2: Literature Review**

- Evolution of the Makerspace
- Defining a Makerspace
- How They’re Run: Legal Status and Governance
- Studies About the Maker Movement
- Makerspaces in Institutions of Higher Education
- The Entrepreneurial/Educational Interface
- The White House Initiative
- Metrics for Success

##### **Chapter 3: A Playbook for Growing a Maker Network Across the California Community College System**

- Vision: Statewide Network of Makerspaces Linked to Community Colleges
  - Key Network Characteristics
  - Makerspaces as a Link Between Community Colleges and Their Regional Economies
  - Network Structure
  - Varying Models Can be Represented in the Network
  - Timeline
  - Learning Outcomes Achieved at Makerspaces
  - Network Evaluation
  - Practical Considerations for Makerspaces
  - Makerspaces in Relation to Traditional Course Offerings



The following survey is intended to solicit your interest and capacity. A multi-college Letter of Interest is highly encouraged although single-college applicant is welcomed. Please submit a separate Section B for EACH interested community college associated with the lead applicant. Only community college districts are eligible. All letters received will be posted on the web page associated with this Solicitation. This Statement of Interest is the first phase in the RFA process for this grant. Only colleges who submit a Statement of Interest and are deemed qualified will be invited to participate in the grant RFA.

Please direct any question to: [innovationmaker@cccco.edu](mailto:innovationmaker@cccco.edu)

Thank you!

**SECTION A**

<b>Lead Applicant</b>
<b>District/College:</b> _____
<b>Address:</b> _____

<b>Chief Executive Officer</b>		
_____		
<b>Name</b>		
<b>Primary Project Contact</b>		
_____		_____
<b>Name</b>		<b>Title</b>
_____	_____	_____
<b>Phone</b>	<b>Fax</b>	<b>Date</b>
_____		
<b>Email</b>		

**SECTION B**

Please respond to the following questions so we can better understand the demand level:

0	<b>Name of College:</b>	_____
1	<b>Describe where your college stands in the process</b> <i>(please check your stage of adoption)</i>	
	Our college has interest in exploring or is in the process of exploring how better to connect to the Maker movement.	
	Our college has already explored and has made a commitment to the Maker movement through formal action (e.g., resource commitment, Trustee vote, etc.).	
	Our college has explored, committed to, and has already set up a Makerspace.	
	Our college has a team consisting of at least a STEAM/STEAM faculty paired with a CTE faculty to champion this program on our campus.	

	Other:	
2	<b>Expertise You Can Contribute to the Community-of-Practice</b> <i>(please check all that applies)</i>	
	My college can help others explore, commit to, and set up a Makerspace.	
	My college can help others develop partnerships with industry/business/iHubs in order to 1) generate work-based learning opportunities for students and/or 2) secure financial support.	
	My college can help others form/develop partnership with grade 9-12 institutions to facilitate early career exploration.	
	My college can help others consider instructional strategies, including but not limited to 4C skills as well as technical skills, and how those strategies relate to community college courses, certificates, and programs.	
	My college can help others bring together STEM/STEAM and CTE faculty to champion the program.	
	Other:	
<b>3. Please add any comments relevant to this intent survey --</b>		