Mayor's Workforce and Economic Advisory Committee
June 10, 2015
Qualcomm Thinkabit Lab

Meeting Notes

Committee members present:
- Mark Cafferty, President & CEO, San Diego Regional EDC
- Constance Carroll, Ph.D., Chancellor, San Diego Community College District
- Mary Walshok, Ph.D., Associate Vice Chancellor of Public Programs, UCSD
- Reginald Jones, CEO, Jacobs Center for Neighborhood Innovation
- Jerry Butkiewicz, Manager of Workforce Readiness, SDG&E
- Peter Callstrom, President & CEO, San Diego Workforce Partnership
- Shaina Gross, SVP & Chief Impact Officer, United Way of San Diego County
- Ben Motten, President, Conner Network
- Magda Marquet, Ph.D., Co-Founder, Ajinomoto Althea
- Ky Lewis, Vice President/General Counsel, SHARP Healthcare
- Bill Bold (representing Don Rosenberg), Senior Vice President, Qualcomm
- Joe Shapiro (representing Elliot Hirshman), San Diego State University

Committee members absent:
- Don Rosenberg, Executive VP and General Counsel, Qualcomm
- Elliot Hirshman, President, San Diego State University
- Cindy Marten, Ph.D., Superintendent, San Diego Unified School District
- Omar Passons, Senior Counsel, Stutz Artiano Shinoff & Holtz
- Jim Zortman, Sector Vice President, Northrop Grumman
- Lani Lutar, President, Responsible Solutions LLC

Others present:
- Jaymie Bradford, Deputy Chief of Staff and Chief of Policy, Office of the Mayor, City of San Diego
- Katherine Johnston, Policy Director, Office of the Mayor, City of San Diego
- Ashley Swartout, Economic Development Manager, San Diego Regional EDC
- Jennifer Manfredi, Sr. Staffing Specialist, Qualcomm Thinkabit Lab
- Saura Naderi, Career Development Specialist, Qualcomm Thinkabit Lab
- Christi Cline, HR Specialist, Qualcomm Thinkabit Lab
- Ellen Potter, Ph.D. Director of Education Outreach, Salk Institute

The meeting was called to order by Mark Cafferty at 10:37 p.m.

Mark Cafferty briefly welcomed members and attendees, and thanked the Qualcomm Thinkabit Lab Team for hosting the meeting. Mark then introduced *Bill Bold, Senior Vice President at Qualcomm* to provide welcoming remarks.

- Bill Bold welcomed members of the committee to the world famous Thinkabit Lab, which has been created as part classroom—part makers space, with the goal of turning students on to the world of work through familiar objects and devices they use daily. To date, the Thinkabit Lab has opened its doors to 3,000 middle school students and more than 200 teachers and administrators, who have created over 975 projects, exposing students to electrical engineering, programming, computer science and art to make cool devices that start them on a path toward a potential career in technology.

  Bill Bold talked about recently experiencing Thinkabit for the first time as a father, and the change he saw in his daughter from potentially being persuaded by peers to focus on subjects more relevant to liberal arts, to having her eyes opened to the possibility of an engineering career through her experience building and exploring in the Thinkabit Lab. After one afternoon "tinkering" in the Lab, her fears of being the youngest person and the only girl quickly dissolved as she was engaged in creative building. Her only request upon leaving was, "Can I come back tomorrow?"

  Qualcomm would like to provide this kind of exposure and opportunity to every young person; and because the model has been working to change the mindset of young people, Qualcomm would like to replicate it in other areas of the country and encourage industry leaders in other sectors to create similar programs to expose young people to the career opportunities that are available to them. Bill then introduced the Thinkabit Lab Team to discuss what a young person experiences when coming to the lab.

- *Christi Cline, HR Specialist, Qualcomm Thinkabit Lab,* provided an overview of what the students who visit Thinkabit first experience. Through classroom-based instruction, the young people are exposed to the world of work at Qualcomm, allowing them to learn about what engineers and other supporting departments do. Through brief lectures combined with team interactions, the students also start to identify what they do well, what topics interest them and what they value most. Christi also highlighted Qualcomm's engagement in programs such as Hire-A-Youth and Connect2Careers, as well as their own programs, which provide longer exposure and the opportunity to expand on the "World of Work" concept. By incorporating the use of StrengthsFinder, Strong Interest Inventory and other assessments, students are able to identify their strengths and interests.

- *Jennifer Manfredi, Sr. Staffing Specialist, Qualcomm Thinkabit Lab,* discussed the vision and leadership behind the Thinkabit Lab, highlighting Ed Hidalgo as a key driving force in the creation of the lab. She identified her former role as a recruiter for Qualcomm and the need for the company to hire talented engineers, combined with the company's corporate responsibly and commitment to both increase awareness of STEM related careers and give back to the community. The goal of the Thinkabit Lab is to make the space available to all students and to support the development of similar labs/experiences for young people to explore careers in other sectors. She did note, however, that it is important to focus on the quality of the experience and be careful not to scale the idea too fast or too big.

- *Saura Naderi, Career Development Specialist, Qualcomm Thinkabit Lab,* added that another big driver was the question "How does a kid aspire to a career they don't know exists?" She explained that for many young people they don't really know what an engineer is or does. The Thinkabit Lab gives students an experience to show them the possibilities. Students enter the Lab and are led by an

engineer as they create, code, collaborate and present their robotics projects; they use electronic equipment and have full access to a variety of props to support their creations. Students are limited only by their imagination and time, working together to innovate, partner and execute in ways that represent 21st century skills.

Qualcomm wants to share with and encourage other companies to open their doors to the world of work for young people to explore and know about careers in other industries. She noted that several of the innovations that come out of Qualcomm are not done by one single person, but rather a product of teamwork. In an effort to address the driving question and provide young people with a picture of opportunities to aspire to, it will take teamwork across all industries to allow students to really feel what it is like to be an engineer, nurse, laboratory researcher or scientists.

- Jennifer Manfredi followed up by adding that the delivery mechanism is extremely important to the success of the Thinkabit experience - more specifically, people matter. The delivery of the opportunity and the learning experience must be made fun. She used an analogy of Thinkabit lead instructor Saura as being the flavored cough syrup that is delivering medicine to kids. (See Attachment A – Thinkabit Lab handout and following WIRED article highlighting the Thinkabit Lab: http://www.wired.com/2015/06/qualcomm-thinkabit/)

- Mary Walshok asked the team if they are tracking any of the students who have come through the lab.

- The team responded, noting that both pre-surveys and post one-week surveys are distributed to the students and that internal data analysis is being done to gage a change in awareness and perception. However, there has been a reported increase in the number of girls participating in certain engineering-related programs following their Thinkabit Lab experience. In addition, the Lab is currently hosting groups of teachers and administrators to help them self-replicate the experience in their own classrooms.

Mark Cafferty requested that the group allow him to switch up the order of the agenda. He then introduced *Ellen Potter, Ph.D. Director of Education Outreach, Salk Institute for Biological Studies,* to provide an overview of programs and initiatives.

- Ellen introduced herself as neurobiologist by profession, but as an enthusiast for engaging young people in science and STEM-related careers. In 1996, working for the Salk Institute, a non-profit biological research institute, she went to the San Diego County Office of Education to ask administrators where the greatest need was for engaging students in science. The answer was to focus on middle school students based on research that shows it is the age when scientific curiosity wanes. With that she started Salk Institute's Mobile Science Laboratory, which teaches students in grades 6 through 8 about DNA and genetics. Not with the intentions of turning every child into a biologist, but to enhance science literacy.

Today the Mobile Science Lab travels throughout San Diego County, visiting up to 20 middle schools each year, many in underserved districts. Equipped with three days' worth of focused laboratory experiments (geared specifically for middle school students and designed in collaboration with Salk scientists and San Diego educators) and a volunteer staff of professional scientists,

graduate students, postdocs and faculty; the mobile lab has directly connected with roughly 35,000 students over the past 20 years.

Ellen highlighted an education assessment/longitudinal study to assess the impact of the Salk Mobile Science Lab. The study focused on student behavior changes at Monroe Clark Middle School in City Heights. The independent evaluation showed students who had participated in the three day lab at Monroe Clark had better attitudes (through an increase in interest and course selection) and higher science comprehension than their eleventh grade peers at Hoover High, who had not participated in the program.

Ellen provided an overview of Salk's High School Scholars program, which offers 8-week paid summer internships for high school students. The program has grown and strengthened through a partnership with the Life Science Summer Institute, which offers a broader applicant pool, including access to students typically underrepresented in the sciences, as well as hands-on pre-internship training in the form of a one-week boot camp. Ellen noted that *paid* internships are key, not only to help hold students accountable and to make the experience more relevant, but to support those students that actually *need* to make a wage during the summer months to help provide for their families. Throughout the 8-week program, students gain valuable soft skills, conduct full-time laboratory studies, formulate and test hypotheses, prepare experiments, document results and present their research and recommendations during a 10-15 minute scientific presentation to an audience of Salk faculty, staff, fellow interns and their families.

For the past 25 years, Salk Institute has opened its doors to hundreds of area high school students for a day of scientific exploration during the annual March of Dimes High School Science Day. Approximately 250 students and teachers meet with Salk scientists in small groups to discuss ongoing research, tour the facility and engage in laboratory activities using Salk's cutting-edge equipment, followed by a scientific lecture by one of Salk's senior faculty members. Ellen noted that one of Salk's practicing neurologists attended one of the annual events as a high school student.

Salk is in the process of developing a new program called SciChat to extend their outreach to elementary grades. Communicating via Skype, and by utilizing a Go-Pro as they conduct experiments and walk through the labs of Salk's campus, Salk scientists respond to student questions about scientific topics in general or about specific experiments they are conducting in their labs. The conversations not only emphasize the importance of science in daily life, they help students imagine themselves as scientists. Students are encouraged to keep the conversation going through the SciChat blog, where they can pose questions and receive further information from their favorite researcher. Ellen added that it is an internet-based model that is an excellent candidate for expansion and Salk is looking for additional partners to scale the program.

Ellen concluded her remarks by noting a new initiative, being funded by the American Association for Advancement of Science (AAAS), to address the need for students to enhance their critical thinking skills and begin to think like a scientist; through observation, asking questions, collecting and analyzing data and making new discoveries. Salk Education Outreach experts are working with Salk scientists and San Diego area high school science teachers to create stimulating new science curricula and materials. All of the developing materials are aligned with the Next Generation Science Standards adopted across the country. Students will be able to watch videos of Salk

- researchers demonstrating key scientific processes and will then engage in focused dialogue about fundamental questions yet to be answered – through a start/stop method. In making these connections, the students will become invested in ongoing scientific discovery.

- Mary Walshok commented that everything that has been presented is wonderful and NSF has been and continues to fund similar programs; however, we are not seeing the needle move when it comes to student achievement, testing scores, college going rates, etc.

- Bill Bold added that Mary makes a good point and one that calls on industry/community leadership to do something to fix the problem. He stressed the need to look at previous models to identify what works well and what doesn't and to increase regularity in exposure, for example, having a physical space that is always open. He noted that the Thinkabit Lab is open Thursday evenings after 5pm for every kid to come in and "tinker," providing that regularity. He also added the importance of building curriculum with teachers and administrators and inviting them into the space so that they can take the ideas back to their classrooms/schools to create their own makers space. He concluded by adding the need to scale the opportunities to reach every kid; the need to establish Thinkabit Lab spaces throughout San Diego County and in communities of need throughout the U.S., and to cultivate the funding and resources to create makers spaces in every classroom.

Mark Cafferty thanked Ellen Potter, as well as Mary Walshok and Bill Bold for their comments, adding that the committee has talked a lot about the idea of looking at innovative models and replicating/scaling effective programs and initiatives. Mark noted that Jim Zortman, Senior Vice President at Northrop Grumman, was unable to attend the meeting, but has been looking at Northrop Grumman's models and other best practices throughout the country to identify what they can create or replicate in San Diego to support workforce development. He added that the idea of creating these similar spaces/models in each of the five Priority Sectors (Advanced Manufacturing, Clean Energy, Health Care, Information and Communication Technologies, and Life Sciences) is certainly something that can and should be part of the committee's recommendations to the Mayor.

Mark then turned the meeting over to Co-Chair *Constance Carroll, Ph.D., Chancellor, San Diego Community College District,* to share an exciting announcement.

- Dr. Carroll started off by saying congratulations to her colleagues at the United Way and San Diego Workforce Partnership as they worked together along with a regional consortium to apply for the California Career Pathways Trust Grant (CCPT), and were awarded $13.1 million in funding for Application 1, addressing the Advanced Manufacturing, Clean Energy and Information, communication Technologies sectors. Constance reviewed Attachment B – San Diego County College and Career Readiness Consortium (San Diego CCRC) CCPT Fact Sheet, highlighting what will be accomplished with the funding and how it will support the development of sustainable, regional infrastructure. She added that there is a great need to leverage resources in order for the initiative to be successful and that it will require industry to engage and support work-based learning opportunities. Constance noted that there are already 16 high school districts and 5 community college districts committed to the project; however, there is a need for a more robust network of employers to provide support.
- Ky Lewis asked what the status of Application 2 is.

- Constance replied the Application 2 for addressing the Healthcare and Life Sciences sectors was not funded.
- Mary Walshok added that perhaps this group should seek other funding opportunities to address these priority sectors.
- Jerry Butkiewicz asked if there is a need for manufacturers to support the initiative.
- Constance replied that yes, the San Diego CCRC will be looking for support from employers representing all of the priority sectors (Adv. Manufacturing, Clean Energy and ICT) highlighted in the application.
- Mary noted that it would be wise to seek out the organized groups/associations in each of these priority sectors to get involved up front in the curriculum development and decision making process in order for them to be vested in the initiative and to ensure its success.
- Constance noted that they have been and will continue to be involved in the design of coursework through advisory boards and such, but there will be a strong need for them to engage further in providing the work-based learning experiences that will be required.
- Shaina Gross added that many industry partners are already engaged and aware of the initiative, and provided letters of support that were submitted with the grant application. She mentioned that as part of the funding that has been awarded there is a plan to hire one staff member per sector as well as a liaison to the high schools, however the San Diego CCRC could use support in helping to identify who each sector staff member should be, to ensure that person is well connected and can communicate and engage the sector effectively.

Mark Cafferty thanked the group for the discussion. He then referred back to the agenda, asking the committee for a motion to approve the minutes from the May meeting. A motion was made by Ben Motten and seconded by Reginald Jones to approve the minutes as presented. The motion passed unanimously.

Mark then introduced *Ben Motten, President, Conner Network* to provide a web portal demonstration.

- Ben Motten started out by reiterating a point previously made by Mary Walshok, that there are several programs available to provide exposure, yet we are not seeing a large or long-term impact. He added that there is clearly a change in the demographic of our workforce and what our workforce is seeking, and changes in economics and business needs that contribute to this great disconnect. With the understanding that a job search is not just for those who are unemployed, and that job search engines are designed primarily for unemployed individuals, Ben created a prototype site to showcase the idea of better connecting great people with great jobs and companies.
Ben reviewed Attachment C – Talent Nexus, and provided an overview of the three ways in which the site focuses on those looking to either: a) map a career, b) find a career, or c) find talent. He demonstrated that for someone looking to map a career, they can take a look at their strengths and then use those to identify a career that aligns. The site has the capability to highlight careers in the form of video explorations, provides information for individuals to drill down to specific job titles, and then to view information regarding specific careers – with regards to salary/ranges, number of job opportunities in the region, growth rate, educational requirements, etc. Ben described the site being able to aggregate the data from other sites to create a path/plan for someone to understand the

various careers, where/how to obtain the education and skills needed - including soft skills - as well as be able to support resume development and interview preparation. In addition, he described the site being able to support administrative logins for guidance/career counselors, and provide real-time feedback for both job seekers and employers.

Lastly, Ben noted that there are existing models that can be expanded or improved upon, yet all of the tools exist in a format to be combined into one robust system. He added that there is a profitability that can be built into the model for sustainability via advertisements, job postings, etc.

- Mark Walshok added that there is momentum from the Irvine Foundation and the Linked Learning initiative, led by Rob Atterbury, that is very similar to what has been explained and perhaps can be adapted to add employer engagement and some of the additional components to make a more powerful and robust system.
- Jaymie Bradford inquired about the timeline for such a system.
- Mary replied she believes the roll out is fairly soon and is probably something Cindy Marten would be able to speak to.

Mark Cafferty commended Ben Motten for hearing the feedback of the committee and for developing a product to address some of the challenges that have been discussed. He then asked the Mayor's staff, Jaymie Bradford and Katherine Johnston, if this type of system would be something that would interest the Mayor.

- Jaymie Bradford noted that the site being described would certainly be beneficial for the city. The current design is primarily for internal stakeholders, yet the goal is to develop a site that can provide broader resources for the general public.
- Mary Walshok added that it should be something that is utilized/showcased at all branch libraries.
- Ben Motten stressed the main focus in creating such a site is that it is linked/connected to data/systems that are updated in real-time.
- Shania Gross noted that the Linked Learning model is focused solely/primarily on the high school population, while what Ben has prescribed is more adult-focused to address the needs of the broader population.
- Joe Shapiro pointed out the importance of communicating information via social media to engage all parties (government, employers, students, etc.), as well as the utilization of video conferences/chat boards built into the site.
- Jerry Butkiewicz highlighted the importance of engaging and communicating with school counselors. He added there is very little targeted at them, however, they are often the gate keepers to steering/directing students toward certain coursework and ultimately careers; starting as early as middle school to ensure students are taking appropriate coursework that feeds into high school offerings that meet the requirements of college/careers.
- Joe Shapiro mentioned the idea of leveraging professional societies, such as the National Board of Certified Counselors, which has identified a set of standards for the counseling profession. Perhaps there are standards that can be identified for supporting career awareness and counseling.

- Constance Carroll reiterated that resources do exist for career counselors, yet many of the resources are siloed. She noted the need to identify the offerings and make recommendations for how they can be improved.
- Katherine Johnston added that the Mayor has met with Superintendent Marten to discuss how to expose career counselors to the five priority sectors, especially at the middle school level. The two are working on an effort to integrate the priority sectors into a counseling curriculum.

Mark Cafferty thanked the group for the discussion, noting that the committee's final meeting is coming up in July, and there is a need to provide the Mayor with documented recommendations by the end of July. He added there would likely be short-term as well as long-term recommendations included. To Constance Carroll's point that many of the resources/solutions exist, yet the silos need to be broken down and a method for broad implementation needs to be identified, Mark recommended that a smaller working group (to be identified) continue to meet and to advise the Mayor on a quarterly basis. He also suggested that the full committee should reconvene a few times a year to revisit the various priorities and recommendations and to maintain a robust regional discussion on education, workforce and economic development.

Mark continued by asking for the committee's approval to pull together a document that summarizes the discussion items to date (starting with the focus on the five priority sectors, the summer bridge programs, Thinkabit Lab models, etc.), and then present to the committee a draft of short and long-term recommendations.

- Mary Walshok agreed, but added there is a category that has not yet been discussed by the committee, and that is the various programs being offered at the universities, continuing education schools as well as corporate universities. The committee has focused primarily on the first job and addressing the skills needs of young people, however there is a need to look at/discuss the needs of incumbent/transitioning workers – those that are in the pipeline or continuing in the pipeline.
- Magda Marquet noted that the committee should seek to encourage creativity and fun throughout the pipeline to encourage continued innovation. There are methods for making career awareness and engagement fun; however the fun is often lost once the job is landed. Magda referred back to the Thinkabit Lab team who referenced engineering as a creativity tool. There is a need for invention and re-invention at every stage, and to encourage continuous learning, creativity and fun. Lastly, she suggested looking at the initiatives housed within the Biocom Institute and the San Diego Festival of Science and Engineering.
- Peter Callstrom added that the Workforce Partnership is looking forward to the Mayor's involvement in shaping the use of federal workforce dollars and aligning the efforts of SDWP with the Mayor's focus. He added that the Workforce Partnership has recently been awarded a grant from the U.S. Department of Labor Employment and Training Administration to provide services for those formerly incarcerated, which is also a population that should not be overlooked.

Mark Cafferty thanked the Committee once more for their time and participation, as well as Qualcomm and the Thinkabit Lab team for hosting the meeting. The meeting was adjourned at 12:00 pm.