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**WORKFORCE INNOVATION IN REGIONAL ECONOMIC DEVELOPMENT (WIRED)  
CALIFORNIA INNOVATION CORRIDOR (CIC)**

**Workforce Needs Assessment Analysis: Project 3.1**

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Number of Companies Surveyed:	20

**WIRED 3.1 Project Overview (Project Goal):** Conduct a labor needs assessment of two hundred entities, to include one hundred key space and information technology companies and government employers, fifty space entrepreneurial and small business companies, and fifty manufacturing companies. Workforce composition, current and future skill needs, and education and training gaps will be identified and included in the assessments.

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**(A) Summary of Surveyed Respondents**

*The purpose of the survey is to gather information about the skills required for positions at your firm and any gaps between your expectations and what is available in the current workforce. Employers were asked to rate both the competency and importance of skills. I don't understand this.*

**Introduction**

The Orange County Workforce Investment Board (OCWIB) and Orange County Business Council (OCBC) collected data from twenty Orange County employers during January and February 2008, for the WIRED 3.1 project. The purpose of the WIRED 3.1 project was to gather information about the skills required for critical positions, identify future workforce gaps, and develop a strategy to address future California Innovation Corridor employer needs. Employers were asked to rate both the competency and importance of workforce skills. In addition to the survey data, other relevant industry information was



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collected and utilized in this report. This summary is the resultant analysis of the survey results and related information for Orange County.

### Target Companies

OCWIB and OCBC conducted surveys of twenty local Orange County businesses categorized in the 236, 332, 336, 441, 541 NAICS codes. While Orange County is not widely known for its manufacturing base, in fact the County does have a vibrant manufacturing sector, which includes many firms that are directly or indirectly related to Aerospace and Defense. In fact, most of the manufacturing firms surveyed were directly involved in Space/Aerospace activities as their primary business. A good cross section of small, medium, and large firms were surveyed in order to understand the needs of the region on a broad basis. Because of the survey content, respondents were primarily Human Resource Directors, an occupational category that assesses workforce skills of incumbent workers and new jobseekers on a daily basis. For incumbent employees, supervisors who have direct contact and who evaluate existing employees on a regular basis were the sources of information. The following table shows the self-identified profile distribution of the firms.

Table A1: Who Were Surveyed?										
Type	Service		Manufacturing			Government		Other		Not Stated
Count	8		10			0		2		0
FTE	5-10	11-19	20-49	50-99	100-249	250-499	500-999	1000+	Not Stated	
Count	1	8	3	3	1	2	0	1	0	
Respondent Position	HR Director		Supervisor/Manager		President/CEO		Other		Not Stated	
Count	16		1		1		1		1	
Background	A: Direct Observe		B: Periodically Observe			C: Discuss with Supervisors		D: Other		Not Stated
Count	1		4			15		0		0

### Type of Employees

Engineering was the primary core critical occupation, mentioned by 60% (12) of the companies. Specific engineering sectors included Civil/Structural, Aerospace, Mechanical/Industrial, Telecom, Environmental, and Materials. Additional key occupations reported by multiple companies were Sales & Customer Service, Drafting, Computer Design, Architects, Warehousing, and Technicians.

### Number of Employees

As outlined above, there were a broad range of companies in terms of size. The most numerous category was the 11-19 small business section; but, there were four companies with over 100 employees, and one company with over 1000 employees. This diversity in terms of size provided a good cross-section of Orange County companies, which tend to congregate in the small to medium size range, especially in these industry clusters.

### Typical Education

All of the engineering occupations that are reported above require a 4-year Bachelors degree. Higher education levels seem to be increasing as reported by companies surveyed. Some of the sales, drafting,

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warehousing, and technician jobs would only require a high school or Associates degree, but even in these occupational categories the trend was toward more education rather than less.

### Typical Job Experience

As noted throughout this report, experienced engineering talent is in short supply in Orange County. Many employers report that just not enough students went into engineering 10-15 years ago, especially in the Civil Engineering and Mechanical Engineering fields. Experienced engineers with 10-15 years of experience are in especially short supply, and these are most critical as they typically perform project management duties. With this shortage, engineers with even a few years of experience are considered “experienced”.

### Typical Pay Range

Median hourly rates for engineers are typically \$35 to \$45 per hour in Orange County. There is some variation between sectors – Civil Engineers (\$34.55 per hour), Environmental Engineers (\$38.98), Industrial Engineers (\$34.99), Materials Engineers (\$32.42), and Mechanical Engineers (\$34.96). It is likely that experienced engineers with project management experience would command in the \$45-\$55 per hour range, and executive/management Engineering positions would go up from there.

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**(B) Major Skills Gaps: Quantitative Results**

List the top skills with the lowest rating in competency and highest rating in importance. Discuss findings.

<b>Table B1: Major Skills Gaps: Quantitative Results</b>					
QUESTIONS FROM SURVEY PART IV	QUESTION TOPIC	Total	Average	Gap Score	Rank Skills Gap Priority Here
2	Rating of Problem Solving Skills	60.5	3.0	0.38	4
Importance	Importance of Problem Solving Skills	68.0	3.4		
3	Rating of Workplace Skills	52.5	2.6	0.70	1
Importance	Importance of Workplace Skills	66.5	3.3		
4	Rating of Occupational Technical Skills	57.0	2.9	0.40	3
5	Importance of Occupational Technical Skills	65.0	3.3		
6	Rating of Additional Technical Skills	65.0	3.3	-0.05	5
7	Importance of Additional Technical Skills	64.0	3.2		
8	Rating of Computer Skills	50.0	2.5	0.50	2
9	Importance of Computer Skills	60.0	3.0		
11	Rating of Social Skills	60.0	3.0	-0.08	6
	Importance of Social Skills	58.5	2.9		
14	Rating of Education Sufficiency	61.7	3.1	3.1	Rank Education Gap Priority Here
14	Satisfaction with Entry Level	58.0	2.9	2.9	1
14	Satisfaction with Technical	67.0	3.4	3.4	3
14	Satisfaction with Professional	60.0	3.0	3.0	2

**Aggregate Workforce Rankings**

The cumulative overall ranking of today’s workforce was 3.1, but varied by type of employee. Technical employees were rated highest at 3.4, Professional employees were rated at 3.0, and Entry-Level employees lowest at 2.9 on average. Employers, however, reported the highest levels of shortages in the Professional workforce (12 companies), with five (5) reporting shortages of Technical workers, and none reporting of shortages of Entry-Level workers.

**Most Important Skills**

The survey results indicated there are a variety of skills that employers felt were most important. Depending on the job type, answers varied throughout the range and there was not much variation in the scores. However, the data did show that “Creative Problem Solving” (3.4 importance), “Workplace Skills” (3.3 importance), and “Technical Skills” (3.3) were the three most important skills overall. Generally, Engineers, Sales, and Customer Service occupations were reported to be in greatest demand/shortest supply. In analyzing the open-ended responses to the most important skills questions, the following were reported as *most important* by many employers in the survey:

- Experience
- Technical Knowledge
- Problem Solving
- Attention to Detail
- Communications Skills
- Understanding of Client/Customer Needs

**Largest Skill Gaps**

By comparing the importance of a skill vs. the current performance of that skill the largest skill gap between expectation and actual can be determined. From the table, *Workplace Skills* (0.70 gap) has the largest gap, followed by *Computer Skills* (0.50 gap), *Occupational Technical Skills* (0.40 gap), and *Problem Solving Skills* (0.38 gap). These rankings mirror OCWIB and OCBC environmental scans of other industries in Orange County which have reported similar gaps in all four categories. In contrast, the

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smallest gaps were *Additional Technical Skills* and *Social Skills*, where the ranking of current employees was actually higher than the importance of those skills.

These results show that local education and training institutions still have a fairly long way to go to address employer needs in these industries, and the gaps are across the spectrum of important skills. While many of the skills reported as deficient were somewhat workplace/company specific, many were skills gaps that should have been addressed previously with education and training. Perhaps this is why companies report that there is no shortage of entry-level workers, as their expectations for this type of worker may be generally lower. Conversely, most companies report shortages of experienced workers, in which most, if not all, of these skills are expected to be present upon hire.

Particularly troubling is that scores in these four key areas reported as “Major Skills Gaps” – “Workplace Skills”, “Computer Skills”, “Occupational Technical Skills”, and “Problem Solving” – were reported as most severe by the manufacturing companies surveyed. In general, manufacturers reported lower numbers in almost every category compared to companies in other industries. There were some particularly low marks for Computer Skills from several manufacturing respondents which does not bode well for the future of manufacturing in our region and State. Most manufacturers in California must continually become more productive in order to stay competitive in our global economy. The primary way in which they do this is through technology, primarily computers and computer interfaces. Low ratings by several companies could mean that unless this computer skills gap is remediated, these companies will become less competitive over time and move or simply go out of business.

A table of individual occupation ratings can be found in the addendum.

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**(C) Major Skills Gaps: Qualitative Results**

Rate the skills gaps as defined by survey respondents' qualitative comments. Discuss findings.

<b>Table C1: Major Skills Gaps: Qualitative Results</b>							
<b>Trend of Responses: Top Rated Skill Gap Has Highest Score</b>							
<b>Critical Skills Required</b>	<b>Technical Skill</b>	<b>Basic Skills</b>	<b>Trouble-shooting</b>	<b>Customer Service</b>			
	15	2	3	4			
<b>Social Skills Desired</b>	<b>Good with People</b>	<b>No</b>	<b>Other</b>				
	2	16	2				
<b>Best Employees are...</b>	<b>Independent</b>	<b>Certified</b>	<b>Willing to Learn</b>	<b>Experienced</b>	<b>Communicator</b>	<b>Team Player</b>	<b>Time Manager</b>
	3	2	4	6	3	1	1
<b>Critical Shortage</b>	<b>Professional</b>	<b>Technical</b>	<b>No</b>				
	12	5	4				
<b>Identify Future Skills</b>	<b>Technical</b>	<b>Computer Skills</b>	<b>Reading Writing</b>	<b>None</b>			
	2	6	1	11			
<b>Desired Training</b>	<b>Technical</b>	<b>Leadership</b>	<b>Computer Skills</b>	<b>Personal</b>	<b>Ethics</b>	<b>College/Univ. Programs</b>	
	2	4	1	4	1	4	
<b>Other Comments?</b>	<b>NO</b>						
	20						

**Critical Skills Shortage--Technical or Professional**

Sixty percent (12) companies reported that their critical skills shortage is at the Professional level. Only twenty-five percent (5) companies reported that their primary shortage is with Technical employees.

**Best Employees**

The characteristics identified for “Best Employees” were surprisingly diverse in, although once again “Experienced” came up as the most desired trait. “Willing to Learn” was second, and shows that there are great opportunities for education and training institutions to partner with employers to provide targeted training. Conversely, it is likely that some skills are very company/workplace specific and can only be taught at the workplace by the employer. The need for “Workplace Skills” also shows up in the qualitative responses of “Independent”, “Trouble-shooting”, “Team Player”, and “Time Management”. Finally, soft-skills such as “Customer Service” and “Communicator” were deemed important primarily by those companies who see customers at their workplace on a regular basis.

**Identification of Future Skills**

Employers often have a difficult time identifying specific future skills. This is likely because technology and global competitive forces are changing the workplace and the nature of work so rapidly that employers do not believe they can accurately forecast future skills with any certainty. In this survey, 11 respondents chose not to answer this question. Of those who did answer, “Computer Skills” was far and away the most frequent answer which demonstrates how prevalent computers have become in the workplace, and how critically important computer skills are to employers. Two companies cited “Technical Skills” as future skill needs, and one employer cited basic “Reading and Writing”.

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**(D) Regional Training Resources**

List the regional training resources where the skills gaps identified in section B may be addressed.

**Available Training**

The Workforce Investment Act requires States to establish a list of training providers who are eligible to receive the WIA funds for training services. WIA also requires that local boards establish a listing of training services and programs that are directly linked to the demand occupations for that area. The intent of the legislative requirement is that individuals will be trained for jobs that are readily available in the local area.

The OCWIB updates the Demand Occupation List for Orange County after the State’s Labor Market Occupational Projection is updated. The Employment Development Department Labor Market Information Division (EDD LMID) determines the Employment Change, Entry Level Wage and Education / Training Levels for each occupation listed. In addition to the information provided by the State, the OCWIB considers the local labor market information, trends, and focused on skills that are in high demand in the regional economy. However, a study of Orange County local resources show that more than half of demand occupations do not have corresponding training programs to help meet the need of skilled workers in those fields, most of which require an AA degree or Post Secondary Vocational Education. Training programs for demand occupations are offered throughout Orange County by private vocational schools as well as community colleges; Table D1 lists the occupations being served with existing training programs by WIA Training Providers. Table D2 lists the occupations not being served with existing training programs by WIA Training Providers, and Table D3 lists the community colleges offering demand occupation training.

**Table D1: Demand Occupation with Training Programs Listed on the ATPD**

SOC Code	Occupational Title	Education / Training*
29-2052	Pharmacy Technicians	1-12 Months OJT
31-9091	Dental Assistants	1-12 Months OJT
31-9092	Medical Assistants	1-12 Months OJT
53-3032	Truck Drivers, Heavy & Tractor-Trailer	1-12 Months OJT
49-9052	Telecommunications Line Installers & Repairers	12-Months OJT
33-9099	Protective Service Workers, All Other	30-Days OJT
43-3011	Bill & Account Collectors	30-Days OJT
15-1041	Computer Support Specialists	AA Degree
15-1099	Computer Specialists, All Others	AA Degree
23-2011	Paralegals & Legal Assistants	AA Degree
29-2012	Medical & Clinical Laboratory Technicians	AA Degree
29-2031	Cardiovascular Technologists & Technicians	AA Degree
29-2032	Diagnostic Medical Sonographers	AA Degree
29-2034	Radiological Technologists & Technicians	AA Degree
29-2071	Medical Records & Health Information Technician	AA Degree
31-2021	Physical Therapist Assistants	AA Degree
17-3019	Drafters, All Other	Post-Secondary Voc Ed
29-2055	Surgical Technologists	Post-Secondary Voc Ed
29-2061	Licensed Practical & Vocational Nurses	Post-Secondary Voc Ed



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<b>SOC Code</b>	<b>Occupational Title</b>	<b>Education / Training*</b>
29-2099	Health Technologists & Technicians, All Other	Post-Secondary Voc Ed
31-9094	Medical Transcriptionists	Post-Secondary Voc Ed
43-6012	Legal Secretaries	Post-Secondary Voc Ed
49-3023	Automotive Service Technicians & Mechanics	Post-Secondary Voc Ed

**Table D2: Gaps in Training Programs for Demand Occupations**

<b>SOC Code</b>	<b>Occupational Title</b>	<b>Education / Training</b>
19-4021	Biological Technicians	AA Degree
17-3022	Civil Engineering Technicians	AA Degree
29-2021	Dental Hygienists	AA Degree
17-3024	Electro-Mechanical Technicians	AA Degree
17-3029	Engineering Technicians, Except Drafters, All Other	AA Degree
17-3025	Environmental Engineering Technicians	AA Degree
19-4092	Forensic Science Technicians	AA Degree
19-4093	Forest and Conservation Technicians	AA Degree
17-3026	Industrial Engineering Technicians	AA Degree
19-4099	Life, Physical, & Social Science Technicians, All Other	AA Degree
17-3027	Mechanical Engineering Technicians	AA Degree
31-2011	Occupational Therapist Assistants	AA Degree
29-1111	Registered Nurses	AA Degree
29-1126	Respiratory Therapists	AA Degree
29-2056	Veterinary Technologists & Technicians	AA Degree
49-3011	Aircraft Mechanics & Service Technicians	Post-Secondary Voc Ed
13-2021	Appraisers & Assessors of Real Estate	Post-Secondary Voc Ed
49-3031	Bus & Truck Mechanics & Diesel Engine Specialists	Post-Secondary Voc Ed
35-1011	Chefs & Head Cooks	Post-Secondary Voc Ed
53-2012	Commercial Pilots	Post-Secondary Voc Ed
43-9031	Desktop Publishers	Post-Secondary Voc Ed
29-9099	Healthcare Practitioners & Technical Workers, All Other	Post-Secondary Voc Ed
51-9071	Jewelers & Precious Stone & Metal Workers	Post-Secondary Voc Ed
41-9022	Real Estate Sales Agents	Post-Secondary Voc Ed
49-2098	Security & Fire Alarm Systems Installers	Post-Secondary Voc Ed
25-1194	Vocational Education Teachers, Postsecondary	Post-Secondary Voc Ed

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**Table D3: Local (Orange County) community colleges that have training programs serving demand occupations.**

<b><u>Santiago Canyon College</u></b>		<b><u>Saddleback College</u></b>	
19-4021	Biological Technicians	19-4021	Biological Technicians
17-3024	Electro-Mechanical Technicians	17-3022	Civil Engineering Technicians
51-9071	Jewelers & Precious Stone & Metal Workers	17-3024	Electro-Mechanical Technicians
19-4099	Life, Physical, & Social Science Technicians, All Other	19-4099	Life, Physical, & Social Science Technicians, All Other
		29-1111	Registered Nurses
<b><u>Santa Ana College</u></b>		<b><u>Irvine Valley College</u></b>	
19-4021	Biological Technicians	19-4021	Biological Technicians
17-3022	Civil Engineering Technicians	41-9022	Real Estate Sales Agents
17-3029	Engineering Technicians, Except Drafters, All Other		
29-9099	Healthcare Practitioners & Technical Workers, All Other		
17-3026	Industrial Engineering Technicians	<b><u>Coastline Community College</u></b>	
19-4099	Life, Physical, & Social Science Technicians, All Other	13-2021	Appraisers & Assessors of Real Estate
17-3027	Mechanical Engineering Technicians	19-4021	Biological Technicians
31-2011	Occupational Therapist Assistants	41-9022	Real Estate Sales Agents
29-1111	Registered Nurses		
<b><u>Golden West College</u></b>		<b><u>Cypress College</u></b>	
27-4011	Audio & Video Equipment Technicians	49-3021	Automotive Body & Related Repairers
49-3021	Automotive Body & Related Repairers	49-3023	Automotive Service Technicians & Mechanics
49-3023	Automotive Service Technicians & Mechanics	15-1099	Computer Specialists, All Other
15-1099	Computer Specialists, All Other	15-1041	Computer Support Specialists
15-1041	Computer Support Specialists	31-9091	Dental Assistants
17-3019	Drafters, All Other	43-9031	Desktop Publishers
17-3029	Engineering Technicians, Except Drafters, All Other	29-2099	Health Technologists & Technicians, All Other
17-3025	Environmental Engineering Technicians	29-2034	Radiological Technologists & Technicians
	Human Resources Assistant, Except Payroll &	21-1093	Social & Human Service Assistants
43-4161	Timekeeping		
41-9022	Real Estate Sales Agents		
29-1111	Registered Nurses		

### Desired Training

The importance of “Workplace Skills” is emphasized by the desired training reported by businesses in the survey, while the relatively low levels of desired training in technical skills and computer skills needs to be further examined.

The high desire for leadership and personal training is very interesting. While technical skills and even computer skills can be relatively company specific, especially in these industries, leadership and personal training overarches almost every industry and company. Survey analysis indicates that these type of courses may be proxies for experience – in other words, grooming perhaps the executive team for the future when experienced workers are in short supply. It also speaks to the very nature of current workplaces where those experienced workers are in high demand and; therefore, every perk and benefit necessary to keep those employees vital and engaged is important, as keeping any experienced worker is vital.

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In keeping with this trend toward the need for better trained employees at the middle and upper level (rather than entry level), companies primarily stated their desire was for college and university training. An even better example of this is the company that mentioned “Ethics”, a new need very critical to very high functioning companies in the wake of Enron, WorldCom, and Sarbanes-Oxley.

The relatively low scores for technical and computer skills training are at first puzzling, as in several other portions of the survey these were reported as both important and lacking in current employees/jobseekers. Perhaps employers do not believe that most training available in these areas is up-to-date or valuable. Conversely, these skills may be very company specific and therefore the solution may be to utilize Employment Training Panel (ETP) funding or community college training geared very specifically to that company’s unique training needs.

### How skills will evolve

Based upon the survey and documented also by OCWIB and OCBC extensive workforce research in Orange County, the skills needed in these types of businesses are constantly evolving upwards. In order to maintain competitiveness, the future workforce will need to be higher- skilled in terms of both technical and computer skills. What is somewhat new in terms of high importance are “Workplace Skills”, including Project Management, Time Management, Team Building, Leadership, and Ethics. As the nature of work moves much more towards project based, both for employers and employees, these types of skills take on singular importance. However, they are rarely taught in our K-12, community colleges, or universities. Sector specific courses in these areas would be an excellent addition to Orange County’s education and workforce training system. The trend toward project based learning is starting to take root in some charter and magnet schools, but for the incumbent workforce and retraining of jobseekers, these kinds of courses could easily be developed by the County’s four community college districts or university extension programs through the University of California, Irvine, California State University, Fullerton, and Chapman University. University extensions are particularly suited to this type of training due to a greater degree of flexibility and agility in curricula development.

### Continued Employee Education

The majority of the companies reported that they must use a combination of “on the job” and “outside” training as their means for keeping their employees current with technology and workplace skills. Typical outside training included attending seminars, symposiums, conferences, and/or reimbursement for relevant college courses.

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### (E) **Regional Investment Strategy**

Discuss the strategy to be taken by the partner organization to address the skills gaps identified in section B.

For technical skills and cluster-specific education at the K-12 level, there is promising movement starting with programs such as BITA (Building Industry Technology Academy) at several high schools and High School Inc. in Santa Ana which just completed its first year. The hypothesis that education should only provide the fundamental knowledge base for a worker is being replaced by the realization that much more is needed in the global competitive environment. In fact, the U.S. nationally is far behind the rest of the world in this realization. Cluster relevant education involving project based learning, internships, and partnerships with business are the only way to make the workforce and economic base sustainable in the modern environment.

The OCWIB has been especially proactive in applying the cluster approach to targeted industry specific training partnerships, such as the Healthcare Collaborative, the C3 project (Computer Cluster Collaborative) and several other good examples of how public-private partnerships pay immediate dividends for both jobseekers and the business community. Orange County Business Council (OCBC), community colleges, and university extension programs have been especially good at identifying needs of the workplace, designing relevant training programs, and providing the institutional capacity and infrastructure to see these programs to fruition. Many successes of this approach have already been documented in Orange County.

Based upon this survey and related research projects, several areas appear ripe for program development. Industry specific computer skills training is one example from the survey, but also in the ancillary healthcare industry collaboration. A suite of cluster-specific “Workplace Skills”, encompassing Leadership, Project and Time Management, Communication, Team Building, and Ethics would certainly pay dividends as well.

### (F) **Summary:**

The database developed from surveying twenty Orange County businesses is rich and further work should be done analyzing more in-depth company specific trends. This summary paints a picture of the results, both the commonalities and the gaps/mismatches that were larger than single company specific issues. In general, businesses spend 99% of their day with company specific issues, as they should in this very competitive environment, especially for manufacturing. This leads to some overall conclusions about how workforce and economic development organizations can best work with businesses under these conditions.

In general, employers are able to articulate their current needs which are documented and outlined in this report. Forecasting the future is more difficult for them, and studies such as this can be very helpful in identifying key trends and/or gaps and mismatches that are common across several businesses. As there are a multitude of training programs and educational institutions, employers, in general, have a hard time identifying which ones might be important and useful to their employees. Publication of these opportunities in a concise, cluster specific communication tool developed and distributed on a regular basis would certainly be helpful to many employers.

Finally, the fundamental nature of employment and the workplace is changing, especially in Orange County, driven by global competitive pressures and demographic changes. The overriding theme running through all of this project’s survey data is that experience is the most valuable, critical, and sought after characteristic that most employers are having problems finding these days. Experienced workers can not

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just be “created”; however, the OCWIB and partners can continue to play a key role in a couple of ways – the simplest of which is being a matchmaker between employers and employees. OCWIB plans to utilize the results 3.1 survey in our business community to further refine skills training policies on the WIB level to meet local need. OCWIB will add this new skills needs assessment to our current combination of the cluster concept, in use for 6 years in Orange County, with the Demand Occupation List information provided by LMID, to constantly refine and redefine workforce development policies. OCWIB and OCBC are jointly revising and updating the Orange County clusters, and results from the survey will be incorporated into this decision making process.

### ***Transforming the public workforce system***

*The OCWIB has already begun to dovetail the WIRED project process with the training policy of the board. Information provided by LMID for purpose of conducting the 3.1 survey was taken into consideration alongside the WIB’s local clusters policy when determining the target survey community. LMID data is combined with cluster definitions to determine and fine-tune training programs and drive the direction of workforce development. Obvious skills gaps identified in the survey result data will be incorporated into existing WIB policy on training investments. The skills needs will be compared with existing training programs at Orange County community colleges and vocational programs, and the training gaps will be addressed and incorporated into future WIB policy refinements, including assistance to colleges in capacity building wherever possible.*

Development of cluster specific training and retraining programs that serve as proxies for experience have paid dividends for the Orange County workforce and employers. Those characteristics embodied by experience, such as Leadership and Project Management, can be the focus of new training program development. Some of the newly developed training strategies have included ramped-up training efforts for Science, Technology, Engineering, and Math (STEM), as well as the development of a successful Leadership and Management Program (LAMP) in partnership with the Extension of University of California at Irvine, with majority funding by the US Department of Labor through a High Growth Initiative Grant and significant employer contribution from the companies whose workers received the training; namely, Edwards Lifesciences, AMO, and Beckman-Coulter, all Orange County-based companies. The success of this LAMP program at UCI Extension is such that the university has moved to make the 2-week course available to the general public as part of the regular Extension course offering, sustaining the curriculum beyond the term of the grant.

The Workforce Investment Board plans to continue to study the skills gaps identified in this study to further refine the OCWIB Demand Occupation List and investment in appropriate training programs that will address the needs of both the employer and the once-and-future employees.

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### (G) **Data Compilation**

Compiled data spreadsheet(s) attached as addenda:

- (1) 3.1 OCWIB SurveyedCompaniesList
- (2) 3.1 OCWIB SurveyCompilation