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**Report on**  
**Hawaii Tax Credit for Research Activities**  
**for Tax Year 2014**

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**August 2015**

**Department of Business, Economic Development and Tourism**

**State of Hawaii**



## Table of Contents

Executive Summary	1
1. Introduction	4
2. Characteristics of QHTBs	5
- Age of QHTBs	5
- Intellectual property	5
- Business sector of QHTBs	6
3. Revenue and Spending Structure	7
- Revenue structure of QHTBs	7
- Hawaii expenses of QHTBs	8
4. Research Activities and Tax Credit	10
5. Job Characteristics and Creation	11
- Employment overview	11
- Employment size	12
- Compensation levels of jobs in QHTBs	12
- Job changes in QHTBs from the previous year	13
6. Impacts of QHTBs' Activities on External Companies	14
7. Tax Credit Claimed with the State Department of Taxation	15
Appendix	16

## **List of Tables**

Table S1. Summary statistics on the characteristics and activities of QHTBs	3
Table 1. QHTBs by year established	5
Table 2. History of research activities	5
Table 3. Patents owned or filed by QHTBs	6
Table 4. Other intellectual property owned by QHTBs	6
Table 5. Business areas of QHTBs in 2014	6
Table 6. Revenues of QHTBs, by revenue source	8
Table 7. Operating and Capital expenditure spent by QHTBs in 2014	8
Table 8. Where QHTBs spent their operating and capital expenditures in 2014	9
Table 9. Reported research expenses and tax credit for tax year 2014	11
Table 10. Number of employments employed by QHTBs, by employment status	12
Table 11. QHTBs by employment size	12
Table 12. Full-time and part-time employees by wage level	13
Table 13. Employment changes in QHTBs from 2013 to 2014	14
Table 14. Impacts of QHTBs' activities on external companies in Hawaii in 2014	14
Table A-1. List of QHTBs that completed Hawaii TCRA survey for tax year 2014	17
Table A-2. Business areas of QHTBs in 2014, by detailed activity	18

## **List of Figures**

Figure 1. Number of QHTBS that conducted business in each sector	7
Figure 2. Areas where QHTBs conducted research in 2014	10
Figure 3. Full-time employees of QHTBs in 2014 by wage level	13
Figure A-1. Number of QHTBs that conducted business in each subsector	19

## Executive Summary

- A total of thirteen qualified high technology businesses (QHTBs) completed the survey with the State Department of Business, Economic Development and Tourism (DBEDT) for the Hawaii research tax credit for tax year 2014. The thirteen QHTBs reported that they spent an aggregate amount of \$28.1 million in research activities in Hawaii in 2014. Among those, \$16.8 million (59.7 %) was eligible for the research tax credit, and a total of \$1.3 million was claimed for the research tax credit in State of Hawaii tax form N346.
- Twelve QHTBs (92%) were established more than six years ago and eleven QHTBs (85%) reported that they have been undertaking the research activities for six years or longer.
- A total of 158 patents were owned or filed by nine QHTBs as of December 2014 (97: owned, 61 pending). Four QHTBs had no patents owned or filed as of December, 2014.
- “Defense & Aerospace” was the most prevalent business sector with seven QHTBs (54%) doing business in the sector. “Energy” and “Other Science” were other popular industry sectors with five QHTBs doing business in each sector. The next were “Biotechnology & Life Sciences” and “Information & Communication Technology,” housing three QHTBs each.
- In 2014, the thirteen QHTBs made a total of \$52.5 million revenue from all goods and services produced in Hawaii, of which 65.2% (\$34.2 million) was derived from out-of-state sales or activities. 23% of this total revenue was earned from intellectual properties that QHTBs produced in Hawaii.
- The thirteen QHTBs spent \$46.2 million in 2014 as operating expenses or capital expenditures for sales and activities performed in Hawaii, of which 44.0% (\$20.3 million) was incurred in the “Biotechnology & Life Sciences” sector.
- As of December 2014, the thirteen QHTBs had a total of 297 regular employees (258 full-time and 39 part-time employees) working for them altogether. The majority of these employees, 78.5%, were employed in research activities.

- About 90% of full-time employees in the QHTBs got paid more than \$60,000 annually, with half of them paid more than \$100,000 annually as wage.
- The aggregate number of jobs in the thirteen QHTBs in December 2014 showed a decent increase from a year ago. Total jobs increased 6.5% and jobs in research activities increased 11.5%. 83% of the jobs gained in research activities was full-time positions.
- Seven QHTBs, 54%, reported that they had independent contractor expenses in 2014. The seven QHTBs spent a total of \$3.1 million to hire 55 contractors or external services for services performed in Hawaii in 2014.
- According to the State Department of Taxation, nineteen claims were processed as of August 12, 2015, for the state research tax credit for tax year 2014. The total amount of the nineteen claims is \$723,400.

Table S1. Summary statistics on the characteristics and activities of QHTBs

Characteristics	2014 tax year	2013 tax year
No. of QHTB submitted TCRA survey	13 <sup>1</sup>	10
Total number of patents owned or filed	158	107
Popular areas of businesses <sup>2</sup> (number of QHTBs)	Defense/Aerospace (7) Energy (5) Other Sciences (5)	Defense/Aerospace (4) Biotech/Life science (4) Information/Comm. (4)
<b>Revenue/ Expense</b>		
Avg. Revenue per QHTB	\$4.0 M	\$5.4 M
% of revenue from out of state sale	65.2%	66.2%
% of revenue from intellectual property	23.4%	30%
Avg. Operating expenses per QHTB	\$3.4 M	\$4.3 M
Avg. Capital expenditure per QHTB <sup>3</sup>	\$26 K	\$247 K
<b>Research</b>		
Avg. Research expense occurred in Hawaii per QHTB	\$2.2 M	\$2.6 M
Total Tax credit claimed for Hawaii TCRA	\$1.3 M	\$1.1 M
Avg. Tax credit claimed for Hawaii TCRA per QHTB	\$100 K	\$109 K
Popular areas of research <sup>2</sup> (number of QHTBs)	Computer software (7) Biotechnology (5) Ocean sciences (5) Non-fossil fuel energy (4)	Computer software (5) Biotechnology (3) Ocean sciences (2) Non-fossil fuel energy (2)
<b>Jobs <sup>4</sup></b>		
Total number of employees	297	338
Avg. number of employees/QHTB	22.8	33.8
Research jobs as % of total jobs	78.5%	77.2%
Full time jobs as % of total jobs	86.9%	82.8%
% of jobs with wage \$60K or higher	78.5%	71.7%
% of jobs with wage \$100K or higher	39.4%	31.7%
Change in total jobs from last year	18 (6.5%)	-20 (-6.0%)
Change in research jobs from last year	24 (11.5%)	-7 (-2.8%)

1. 5 QHTBs also completed the research tax credit survey for tax year 2013.
2. A company was counted multiple times if it conducted business/research in more than a sector.
3. Capital expenditure includes land, construction, and equipment purchase. There were two companies that made a large amount of capital expenditure in 2013, but not in 2014.
4. Includes both full-time and part-time jobs, but doesn't include temporary or seasonal jobs.

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## 1. Introduction

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Many states have been implementing a state research tax credit in conjunction with the federal research tax credit, to further promote research activities of businesses in the state.

Hawaii's effort to encourage research activities through tax incentives started as early as 1999. Act 178 in 1999 contained a state tax credit for research activities. However, the tax credit was limited to 2.5% of new research expenses in Hawaii and was non-refundable.

Benefits of the Hawaii research tax credit increased substantially in 2000, when Act 297 raised the Hawaii research tax credit from 2.5% to 20% of the qualified research expenses to match the federal standard and made the credit refundable. Act 221 in 2001 further augmented the benefits by allowing the credit to be claimed for all qualified research expenses, not just the incremental amount. Hawaii research tax credit was amended once more in 2004 when Act 215 limited credit eligibility to qualified high technology businesses (QHTBs) only. This old research tax credit sunsetted in 2010.

Act 270, Session Laws of Hawaii 2013, re-established Hawaii's research tax credit for tax year from 2013 to 2019. The credit remains to be 20% of the qualified research expenditures and continues to be refundable. However, it defined QHTBs more narrowly and adopted federal rules again for eligibility, which means that qualified research expenses are limited to incremental amounts only.

Act 270 also enhanced reporting requirements. It mandated all QHTBs that claim the state research credit to complete an annual survey with DBEDT. Based on the survey result, DBEDT is required to submit a report to the legislature on the activities of the QHTBs to measure the effectiveness of the research tax credit.

This is the second report that is prepared pursuant to Act 270. This report includes statistics on various activities of QHTBs that claimed the research tax credit for their taxable year 2014. Most statistics reported in this report are for activities undertaken in calendar year 2014.

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## 2. Characteristics of QHTBs

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For tax year 2014, a total of thirteen QHTBs completed the survey with DBEDT on the Hawaii tax credit for research activities. QHTBs in this report refer to the thirteen companies unless otherwise stated.

### Age of QHTBs

Most QHTBs that submitted the Hawaii research tax credit survey for tax year 2014 have been doing business for many years. All QHTBs except one were established more than six years ago. Four QHTBs were established before 2000 and eight QHTBs were established between 2000 and 2010. The company with the shortest history was established in 2011.

History of research activity was also long. 85% of the QHTBs reported that they had been undertaking the research activities for six years or longer.

Table 1. QHTBs by year established

Year established	~ 1990	1991-2000	2001-2005	2006-2010	2011~
No. of QHTBs	3	1	3	5	1

Table 2. History of research activities

Years	2 years	3 years	6 years	7 years or longer
No. of QHTBs	1	1	2	9

### Intellectual Properties

More than 150 patents were owned or filed with the U.S. Patents and Trademark office by the QHTBs. As of December 31, 2014, a total of 97 patents were owned by the QHTBs while another 61 patents were filed and pending. However, not all QHTBs owned or have filed patents. Among the thirteen QHTBs, four QHTBs had no patent owned or filed as of December 31, 2014.

Table 3. Patents owned or filed by QHTBs (as of Dec 31, 2014)

Total number of patents owned or filed by QHTBs			No. of QHTBs with at least one patent owned or filed	No. of QHTBs with more than 20 patents owned
Total	Owned	Pending		
158	97	61	9	3

Nine QHTBs (69%) indicated that they owned intellectual property other than patents. Most QHTBs with patents also owned intellectual properties other than patents. Among the four QHTBs that had no patent owned or filed, only one reported that it owned other intellectual properties.

Table 4. Other intellectual property owned by QHTBs (as of Dec 31, 2014)

Total number of QHTBs that submitted tax credit surveys	No. of QHTBs with other intellectual property			
	Copyrights	Trade Secrets	Licenses	Trademarks
13	4	4	6	6

#### Business sector of QHTBs

The survey asked each QHTB to indicate all industry sectors in which the QHTB conducted business in 2014. Eight major business sectors consisting of eighty four subsectors were provided as business categories. Seven QHTBs (54%) indicated that they were doing business only in one business sector whilst six QHTBs indicated that they did business in more than one business sector.

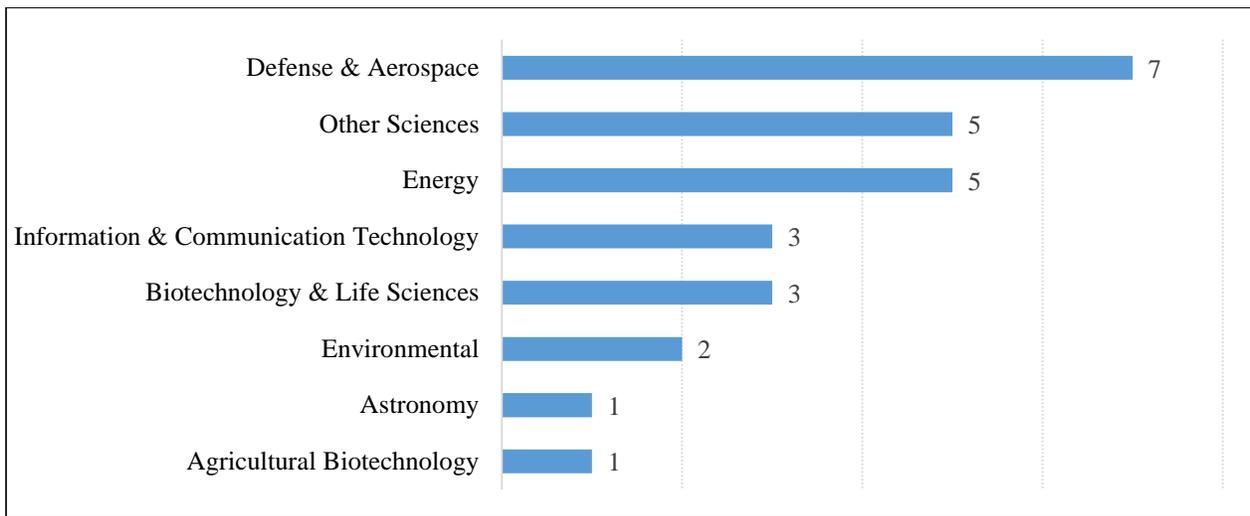
Table 5. Business areas of QHTBs in 2014 (number of QHTBs)

One sector only				Doing business in more than one sector
Biotechnology/ Life Science	Defense/ Aerospace	Other Sciences	Information/ Communication	
3	2	1	1	6

Figure 1 shows total number of QHTBs that conducted business in each industry sector in 2014, counting the multi-sector companies multiple times for all industry sectors they did business in.

“Defense & Aerospace” held the largest number of companies. Seven QHTBs (54%) indicated that they did business in this sector. “Energy” and “Other Science” were other popular industry sectors with five QHTBs doing business in each sector. The next were “Biotechnology & Life Sciences” and “Information & Communication Technology,” holding three QHTBs each.

Figure 1. Number of QHTBs that conducted business in each sector (with multiple counting) <sup>1</sup>



<sup>1</sup> Multi-sector companies are counted for all sectors in which they did business.

Table A-2 and Figure A-1 in the appendix at the end of this report shows business activities of QHTBs by detailed business activity. Specialty software development in the “Defense & Aerospace” sector was the most prevalent business activity amongst the QHTBs in 2014.

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### 3. Revenue and Spending Structure

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#### Revenue structure of QHTBs

In 2014, the thirteen QHTBs made a total of \$52.5 million revenue from all goods and services produced in Hawaii, of which 65.2% (\$34.2 million) was derived from out-of state sales or activities.

About 23% of this total revenue was earned from intellectual properties that QHTBs produced in Hawaii. The combined revenue of the thirteen QHTBs from their intellectual properties, by selling patented products or licensing royalty, etc., was \$12.3 million in 2014. 76.5% (\$9.4 million) of the revenue from intellectual properties was earned from out-of-state sales.

Table 6. Revenues of QHTBs, by revenue source

Source of revenue	Revenue in 2014	
Total revenue	\$52,455,166	100%
- from out-of-state sales	\$34,215,127	65.2%
Revenue from intellectual property	\$12,271,829	100%
- from out-of-state sales	\$9,389,403	76.5%

#### Hawaii expenses of QHTBs

The thirteen QHTBs spent \$46.2 million in 2014 as operating expenses or capital expenditures for sales and activities performed in Hawaii.

Table 7. Operating and Capital expenditure spent by QHTBs in 2014

Operating Expenses spent by QHTBs	Capital Expenditures spent by QHTBs
\$45,899,125	\$ 337,789

Table 8 presents where QHTBs made the spending in 2014 by industry sector. 44.0% (\$20.3 million) of the QHTBs' Hawaii expenses was incurred in "Biotechnology & Life Sciences", while another 22.1% (\$10.2 million) of the spending was incurred in the "Ocean Sciences" sector.

A subsector that received the largest QHTBs' spending in 2014 was contract research organization subsector in "Biotechnology & Life Sciences". \$13.5 million spending was made in this subsector in 2014. Other subsectors that received a large expenditure include ocean engineering subsector in "Ocean Sciences" (\$6.5million), medical device subsector in "Biotechnology & Life Sciences" (\$6.2 million), and specialty software development subsector in "Defense and Aerospace" (\$4.7 million).

Table 8. Where QHTBs spent their operating and capital expenditures in 2014

All sectors	\$46,236,915	100.0%
<b>Biotechnology/ Life Sciences</b>	<b>\$20,342,088</b>	<b>44.0%</b>
- Contract Research Organization	\$13,480,003	29.2%
- Medical Devices	\$6,193,070	13.4%
- Other	\$669,015	1.4%
<b>Ocean Sciences</b>	<b>\$10,224,628</b>	<b>22.1%</b>
- Ocean Engineering	\$6,456,041	14.0%
- Other	\$3,768,587	8.2%
<b>Defense/Aerospace</b>	<b>\$8,175,392</b>	<b>17.7%</b>
- Specialty Software Development	\$4,711,033	10.2%
- Testing & Evaluation	\$1,827,631	4.0%
- Other	\$755,393	1.6%
- Remote Sensing	\$705,137	1.5%
- Modeling/Simulation/Training	\$100,719	0.2%
- Information Services	\$75,479	0.2%
<b>Energy</b>	<b>\$2,896,220</b>	<b>6.3%</b>
- Energy Efficiency	\$2,600,816	5.6%
- Renewable Fuels	\$295,404	0.6%
<b>Information/Communication Technology</b>	<b>\$1,193,309</b>	<b>2.6%</b>
- Specialty Software Development	\$1,193,309	2.6%
<b>Environmental</b>	<b>\$422,006</b>	<b>0.9%</b>
- Water Technologies	\$422,006	0.9%
<b>Unidentified</b>	<b>\$2,983,271</b>	<b>6.5%</b>

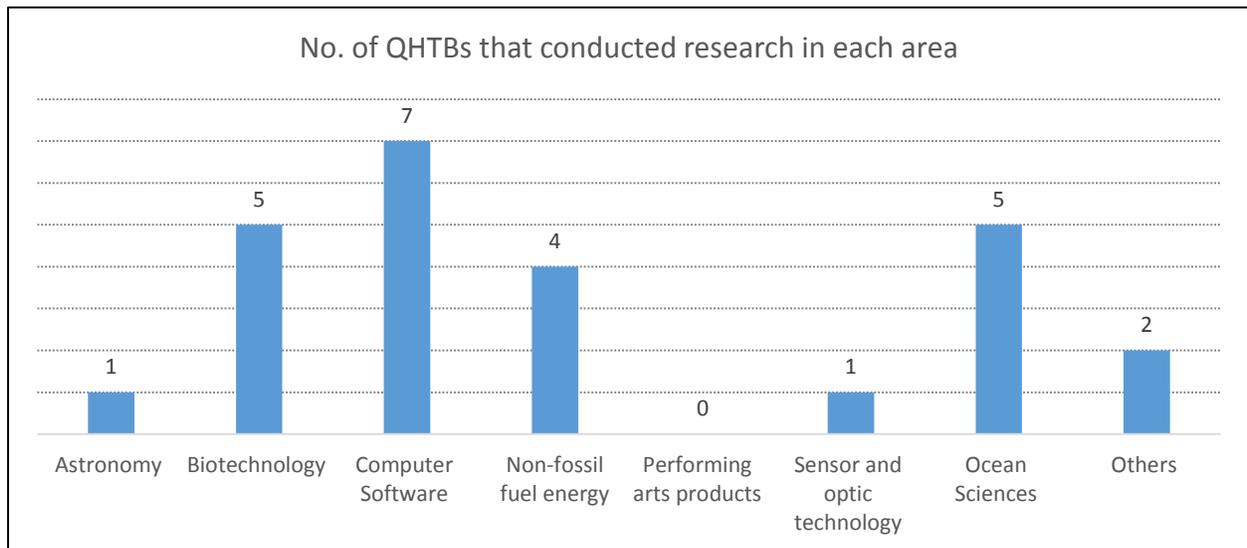
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## 4. Research Activities and Tax Credit

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Businesses were asked to indicate in which area they conducted research during the tax year. Seven broad categories to choose from were provided. Figure 2 presents the number of QHTBs that conducted research in each research area allowing multiple counting of a QHTB if it conducted research in multiple areas. Among the thirteen QHTBs, five companies reported that they conducted research in more than one area. “Computer Software” was the most widely held research area with seven companies having conducted research in the area in 2014. Other research areas that were popular among the thirteen QHTBs include “Biotechnology” and “Ocean Sciences”. Five QHTBs conducted research in each of the areas in 2014.

Figure 2. Areas where QHTBs conducted research in 2014



For “Qualified Research Activities”, Act 270 adopts §41 of the Internal Revenue Code, meaning that only incremental amounts are eligible for the credit, with the further requirement that qualified research activities do not include research expenses incurred outside of the state.

The thirteen QHTBs who completed the Hawaii research credit survey for tax year 2014 reported that they spent an aggregate amount of \$28.1 million in research activities in Hawaii in 2014. Among those, \$16.8 million (59.7%) was eligible for the Hawaii tax credit for research activities

(TCRA), and a total of \$1.3 million was claimed by the thirteen QHTBs for tax credit on Form N346.

The amount that individual QHTB claimed for the Hawaii research tax credit ranged from \$500 to \$372,000. Seven QHTBs reported that they claimed more than \$100,000 for the R&D credit on Form N346 for tax year 2014. All thirteen QHTBs reported that they paid zero corporate income tax for tax year 2014.

Table 9. Reported research expenses and tax credit for tax year 2014

Total Research Expenses occurred in Hawaii	Total Research Expenses eligible for Hawaii TCRA	Total Tax Credit reported for Hawaii TCRA
\$28,088,918 100%	\$16,779,028 59.7%	\$1,305,481

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## 5. Job Characteristics and Creation

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### Employment overview

As of December 12, 2014, the thirteen QHTBs had a total of 297 regular employees (258 full-time and 39 part-time employees). The majority of these employees, 78.5%, were employed in research activities. Although the share of research activity jobs was a little higher in full-time jobs than in part-time jobs, the difference was not significant.

A total of 21 workers were employed on temporary or seasonal basis by the QHTBs during the calendar year 2014. All of the 21 temporarily or seasonally hired workers were employed to work on research activities.

Table 10. Number of employments employed by QHTBs, by employment status

	As of December 2014			Temporary / Seasonal in 2014
	Total	Full-time	Part-time	
All areas	297	258	39	21
In Research Activities	233	206	27	21
Research Activity Jobs as % of Total Jobs	78.5%	79.8%	69.2%	100.0%

### Employment size

QHTBs that completed the research tax credit survey for tax year 2014 varied substantially in employment size. The number of regular employees that each of QHTBs had as of December 2014 ranged from 1 to 105. There were six QHTBs that had less than 10 regular employees while a QHTB had over 100 employees working for the company.

Table 11. QHTBs by employment size

Number of regular employees <sup>1</sup> (as of December 2014)	No. of QHTBs
Less than 10	6
10-24	3
25-49	2
50-74	1
75-99	0
100-124	1
125 and more	0

<sup>1</sup> Excludes temporary and seasonal employees

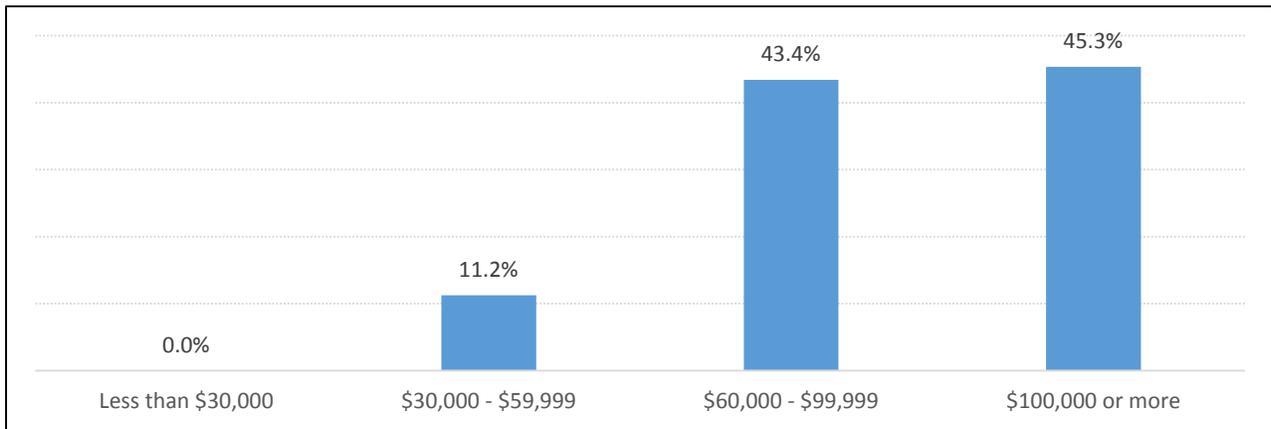
### Compensation levels of jobs in QHTBs

Table 12 shows the number of employees and their shares of total employees by four wage groups. About 90% of full-time employees in the QHTBs got paid more than \$60,000 annually, with half of them paid more than \$100,000 annually as wage.

Table 12. Full-time and part-time employees by wage level

Annual wage	Full & Part-time		Full-time		Part-time	
	Jobs	Percentages	Jobs	Percentages	Jobs	Percentages
Less than \$30,000	18	6.1%	0	0.0%	18	46.2%
\$30,000-\$59,999	46	15.5%	29	11.2%	17	43.6%
\$60,000-\$99,999	116	39.1%	112	43.4%	4	10.3%
\$100,000 or more	117	39.4%	117	45.3%	0	0.0%
Total	297	100%	258	100%	39	100%

Figure 3. Full-time employees of QHTBs in 2014 by wage level



Job changes in QHTBs from the previous year

Although job loss/gain varied by individual QHTB, the aggregate number of regular jobs in the thirteen QHTBs in December 2014 was 6.5% higher than they had a year ago. Job gain in research activities was higher. A total number of 233 employees were working on research activities in the thirteen QHTBs in December 2014. It was 24 persons more, or 11.5% higher than the QHTBs had in 2013. 83% of the jobs gained in research activities was full-time positions.

Table 13. Employment changes in QHTBs from 2013 to 2014

Employees		2014	2013	Changes from 2013
Full-time &Part-time	In all areas	297	279	18
	In research activities	233	209	24
Full-time	In all areas	258	245	13
	In research activities	206	186	20
Part-time	In all areas	39	34	5
	In research activities	27	23	4

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## 6. Impacts of QHTBs' Activities on External Companies

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Table 14 summarizes impacts of the QHTBs' business activities on external companies in Hawaii in 2014. Seven QHTBs, 54%, reported that they had independent contractor expenses in 2014. The seven QHTBs spent a total of \$3.1 million to hire 55 contractors or external services for services performed in Hawaii. Among those, 79% (\$2.5 million) was spent in the area of "Scientific and Technical Contract Services".

The survey also asked if there was any new company established to commercialize the intellectual property owned by the QHTBs. The survey results indicated that there was no new company established in 2014.

Table 14. Impacts of QHTBs' activities on external companies in Hawaii in 2014

Independent contractor expenses incurred by the QHTBs	\$3,142,906
Total number of independent contractors hired/external services procured by the QHTBs	55
Number of new companies established in Hawaii to commercialize the QHTBs' intellectual property	0

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## **7. Tax Credit Claimed with the State Department of Taxation**

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According to the State Department of Taxation (DoTax), nineteen claims were processed as of August 12, 2015 for the state research tax credit for tax year 2014. The total amount of the nineteen claims is \$723,400.

The difference between the amount reported on the DBEDT surveys (\$1.3 million) and DoTax tax credit claims (\$723,400) may be due to timing differences. The surveys were completed by QHTBs and were due June 30, 2015. If a taxpayer is an individual or corporation with a tax year same as the calendar year, the tax return for tax year 2014 was due April 20, 2015. However, the due date may be extended to October 20, 2015 if the taxpayer requests an automatic extension. Also, it takes time to process the tax returns. For these reasons, the claims for the research tax credit processed by DoTax as of August 12, 2015 likely represent only a part of the total claims that will be filed for tax year 2014.

The number of claims for the tax credit may be greater than the number of surveys completed with DBEDT by the QHTBs because of the pass-through taxation. If a QHTB is a partnership or other pass-through entity, the tax credits earned by the QHTB are passed through to its individual members, who claim the tax credits on their tax returns.

For tax year 2013, ten QHTBs submitted the DBEDT research tax credit survey, reporting \$1,093,037 tax credit. According to the preliminary figure of DoTax, however, there were 25 claims (including corporations and individuals) for the state research tax credit for tax year 2013 with total amount of claims of \$1,275,787.

# **Appendix**

Table A- 1. List of QHTBs that completed Hawaii TCRA surveys for tax year 2014

Company Name	Company Location
Kuehnle AgroSystems INC	Honolulu, Honolulu County
Oceanit Laboratories, INC	Honolulu, Honolulu County
Navatek LTD	Honolulu, Honolulu County
Navatek CFD Technologies, LLC	Honolulu, Honolulu County
Navatek Lifting Body Technologies, LLC	Honolulu, Honolulu County
Spirent Communications Hawaii LLC	Honolulu, Honolulu County
Resurgo, LLC	Honolulu, Honolulu County
Tissue Genesis Institute, LLC	Honolulu, Honolulu County
Tissue Genesis, INC	Honolulu, Honolulu County
TeraSys Technologies LLC	Honolulu, Honolulu County
Innovasc LLC	Honolulu, Honolulu County
Laulima Systems LLC	Kalaheo, Kauai County
Makai Ocean Engineering, INC	Waimanalo, Honolulu County

Table A- 2. Business areas of QHTBs in 2014, by detailed activity

(A QHTB is counted multiple times if it conducted business in multiple areas)

Industry sector	Subsector	No. of QHTBs conducted business in the subsector
Agricultural Biotechnology	Aquaculture	1
	Plant Tissue Culture	1
Astronomy	Adaptive Optics	1
	Remote Sensing	1
Biotechnology/Life Sciences	Diagnostics/Therapeutics	1
	Medical Devices	4
	Other	1
Defense/Aerospace	Communications & Computer Systems	2
	Information Services	2
	Modeling/Simulation/Training	3
	Optics	1
	Photonics	1
	Remote Sensing	1
	Specialty Software Development	6
	Testing & Evaluation	4
Other	2	
Energy	Energy Efficiency	4
	Renewable Fuels	1
	Other	1
Environmental	Air Technologies	1
	Disaster Mitigation Management	1
	Water Technologies	2
	Other	1
Information/Communication Technology	Laser	1
	Modeling/Simulation/Training	2
	Optics	1
	Remote Sensing	1
	Specialty Software Development	3
	Telecommunications/Networks	2
	Testing & Evaluation	3
Other	1	
Ocean Sciences	Ocean Engineering	1
	Other	4

Figure A-1. Number of QHTBs that conducted business in each subsector  
 (A QHTB is counted multiple times if it conducted business in multiple areas)

