

A Newton's cradle with five silver spheres. One sphere is in motion, having just struck the others, creating a large, soft shadow on the surface below. The background is white with a faint, large-scale geometric pattern.

**REGIONAL
ECONOMIC
IMPACT
STUDY
OF UCF'S
BUSINESS
INCUBATION
PROGRAM**
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*Prepared for the
Florida High
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Council*

WHOwen Consulting

Orlando, Florida

TECHNICAL REPORT – 2011 UPDATE

TO: Gordon Hogan, Director, UCF Business Incubation Program

Randy Berridge, President, Florida High Tech Corridor

FROM: William H. Owen, CRE

DATE: January 8, 2012

SUBJECT: Quantitative Summary of 2011 Incubator program impacts

INTRODUCTION

In July 2011, W. H. Owen Consulting, Inc. (WHO) was retained by the Florida High Tech Corridor Council (FHTCC) to prepare an economic impact analysis of the UCF Business Incubation Program (BIP), updating a similar analysis completed by the author while employed at Real Estate Research Consultants, Inc. (RERC) during the summer of 2009. These impact analyses measure the spending patterns and tax impacts of companies and employees currently operating within the incubators or those having graduated from the UCF incubators and still operating within the greater Orlando metropolitan region. The same methodologies used in 2009 were employed in the update for consistency of results. The most recent data regarding companies and employment counts were available for October 2011.

The primary difference between the original study and this update is the number of incubator facilities which are included in the analysis. The 2009 study addressed five UCF incubators (whereas two of them now have merged into one), and the update includes five new facilities which have now been opened. The geographic scope of the UCF Business Incubation Program has expanded from Orange and Seminole counties to now include Lake, Osceola, and Volusia counties, as well.

In the 2009 study, I included the clients and graduates of five incubators, including:

	Name in 2009	Current name in 2011
1	UCF Technology Incubator	UCF Business Incubator – Central Florida Research Park
2	Photonics Incubator	UCF Business Incubator – Photonics UCF Campus
3	Orlando Business Development Center	UCF Business Incubator – Orlando
4	Seminole County/Winter Springs Incubator	UCF Business Incubator – Winter Springs
5	Downtown Orlando Incubator	Now <u>merged</u> with UCF Business Incubator - Orlando

For the updated analysis, I have also included any relevant data for the following new facilities:

UCF Incubators Opened from 2009 through 2011

1. UCF Business Incubator - Kissimmee
2. UCF Business Incubator - St. Cloud
3. UCF Business Incubator - Leesburg
4. UCF Business Incubator - Daytona
5. UCF Business Incubator - Sanford

Of all the new sites, the Sanford Incubator is the only one with a graduate so far. All the other facilities are still too new yet to have any graduates, but their net operational impact is significant and growing. The impacts of these new clients reflect well on the overall performance of the entire system.

BOTTOM-LINE OF THE ANALYSIS

“Between 1999 and early 2009, the UCF Incubation Program facilitated the growth and development of at least 100 new high-tech companies in the Central Florida region. A total of 34 companies graduated from the incubation program, and 80 percent of those graduate companies remain located in Central Florida. At the time of this analysis, the incubation program was comprised of 70 client companies.” *(excerpt from the 2009 RERC report)*

Impacts of Incubator Client Companies

The growth of the UCF BIP since that analysis was completed has increased the number of active client companies from **70** in 2009 to **118** in 2011. The aggregate number of employees of these companies has increased from **303** in 2009 to **721** in 2011, an increase of 138%.

- The total economic output of the client companies and BIP operations is currently \$84.8 million annually, compared to \$39.5 million in 2009; this reflects a 114% increase in just a little more than two years.
- The employee earnings estimate of client companies has risen commensurately, from \$18.4 million in 2009 to \$39.5 million in 2011.

“New employment opportunities and business operations created by client and graduate companies generate significant multiplier effects which benefit the community, the region, and the state. These effects are often described as “*downstream*” returns created as the result of job growth and the commercial application of intellectual property developed by these companies.” *(excerpt from the 2009 RERC report)*

When the “multiplier effect” is applied, the activities of the BIP incubators and their client companies are supporting an additional 672 jobs within the Metro Orlando region, which compares to **313** jobs in 2009.

- The total direct and indirect annual economic output of the client companies in the UCF Incubation system is \$172.2 million today, compared to \$80.2 million annually in 2009.
- The total employment created equals 1,402 jobs with annual earnings of \$63.1 million, compared to 653 jobs and earnings of \$29.4 million in 2009.
- Because I have used static indexes for output and earnings multipliers, these two-year gains are also equal to 114% for all above calculations.

Impacts of Incubator Graduate Companies

The 66 companies that have graduated from the UCF Incubation system over the past ten years have been quite successful, by any measure. Only a handful (3) are known to be “not in business” as of July 2011. Another handful (4) have been acquired by other presumably larger firms. Only nine graduate firms (13%) are known to have relocated outside the Metro Orlando region. Two of these firms have grown to a combined total of almost 10,000 jobs after relocating to California to take advantage of readily available venture capital.

In total, it is estimated that **50 companies providing 845 jobs** have remained in the Metro Orlando region (including Brevard and Volusia counties). These firms represent an 85% retention rate from the five incubators studied in 2009 (as of July 2011). There have already been **34** companies enlisted with the five new incubators (as of October 2011), some of which will be graduating over the next two-three years, in addition to **84** on-going companies in the older facilities.

- The total direct economic output of the graduated companies that have remained in the Metro Orlando region is estimated to be \$94.0 million annually, a 70% increase over the 2009 estimate of \$54.7 million.
- The employee earnings estimate of graduate companies has also risen at least 70%, from \$31.1 million in 2009 to \$53.4 million in 2011.

When the “multiplier effect” is applied, the graduate companies of the UCF incubators and their 738 jobs are supporting an additional 872 jobs within the Metro Orlando region, which compares to **508** jobs in 2009.

- The total direct and indirect annual economic output of the graduate companies from the UCF Incubation system is \$190.8 million today, compared to \$111.1 million in 2009, a 72% increase.
- The total jobs created by graduated firms equals 1,717 jobs with earnings of \$69.8 million, compared to 1,000 jobs and earnings of \$40.6 million in 2009.

When all this is added together, you can see that the combined direct impacts of client and graduate companies in 2011 are:

Jobs created:	1,575 jobs
Total economic output:	\$178.8million annually
Earnings:	\$ 92.9 million annually

When direct and indirect impacts are combined, the totals are substantial:

Jobs created:	3,120 jobs
Total economic output:	\$363 million annually
Earnings	\$132.9 million annually

In the past two years – 2009 through mid-2011 – in the midst of the most severe national and statewide economic downturn in decades, the UCF Incubation Program has proven instrumental in the creation of almost 1,500 new jobs with earnings in excess of \$62 million annually in the Metropolitan Orlando region.

Fiscal Impacts and Return on Public Investment

Another area of measurable impacts from client and graduate companies associated with the UCF Incubation Program is the range of local and state government revenues that result from spending or investment by the companies and their employees. The items of major importance to affected local government jurisdictions include ad valorem tax revenues and sales tax revenues. Also benefiting from ad valorem revenues are public school systems in the local counties.

Some assumptions in the methodology utilized in calculating the estimated fiscal benefits may not be realized, and some categories of benefits may not be accounted for. Incremental costs of public services are also not addressed, but these are not considered to be substantial at this time. Irrespective of these limitations, the estimates included in this report are reasonable in the context of this analysis.

Estimated Employee Impacts

Real Property Taxes. The ownership of housing (or the commensurate cost of rental housing) is the single largest investment for most employees, and the resulting property taxes are substantial when more than 3,100 households are considered. Assuming 30 percent of disposable income as the maximum supportable household allocation to housing costs yields an average home value of approximately \$175,000. I have estimated that about 70% of incubator client and graduate employees reside in Orange County and 30% reside in Seminole County. Applying the corresponding local millage rates for 2010 to the total appraised value of employee housing yields an estimate of annual property taxes equal to \$3.7 million in the region. In addition, the value of employee housing generates an estimated \$3.2 million annually for local schools.

State and Local Sales Taxes. The employees of client and graduate companies also pay sales taxes on normal expenditures for goods and services that accrue to the state and local governments. Conservative multipliers were used to evaluate taxable sales within each county as a result of employees' expenditures. Based on estimated total employee earnings of \$132.9 million, the total annual sales tax revenues are estimated to be almost \$3.4 million statewide annually. The local government share of these collections (including local option sales taxes) is estimated to be \$582,400 annually.

Estimated Business Impacts

Potential business impacts on local fiscal revenues considered in this analysis are comprised primarily of:

- Real property ad valorem taxes assessed on facilities;
- Tangible personal property taxes assessed on equipment and fixtures; and
- Sales taxes collected from business sales and expenditures for rent, supplies, and certain services.

Without detailed corporate accounting records, these calculations can only be generally estimated based on assumed standards.

Real and Personal Property Taxes. Real property tax receipts are determined by the value of underlying land and the value of structural improvements made upon the land. For this analysis, total real property value is based upon the combined building space occupied by the UCF incubators and an estimate of building space occupied by graduate companies and their employees. Local millage rates for 2010 for Orange and Seminole counties were applied to the total estimated real property values to determine the approximate amount of ad valorem taxes generated annually. The UCF incubators and the graduate companies generate at least \$419,000 annually in real property taxes for local jurisdictions. In addition, these facilities generate at least \$372,000 annually in local school taxes.

Tangible personal property (TPP) taxes are collected from local companies based upon the value of their equipment, furniture, and fixtures. Prior research and estimates prepared for the 2009 incubator impact study set the ratio of TPP to real property at roughly 10% of real property values for commercial office and light industrial buildings. All levies are applied to these assessments, including school taxes. I have estimated that TPP revenues from client and graduate companies will generate at least \$79,000 per year for local governments and schools.

State and Local Sales Taxes. While it is difficult to assess the precise expenditure patterns of various businesses for purposes of estimating sales taxes, it is obvious that 168 client and graduate companies operating in Central Florida are paying rent, buying supplies, and selling products, some of which are taxable. The RIMS II input/output analysis completed as part of this study indicates that the regional gross output of the UCF incubator client and graduate companies currently equals at least \$363 million annually. For illustrative purposes, if one assumes only 20 percent (20%) of this output reflects taxable sales, it would equate to \$72.6 million annually. A total of roughly \$4.3 million in sales taxes would be generated annually, of which about \$746,400 per year would flow to the local jurisdictions in the Metropolitan Orlando region.

Table 1: SUMMARY OF FISCAL REVENUES, 2011, UCF INCUBATOR SYSTEM

Sources of Tax Revenues	Public Revenues per Year - 2011
<u>Employees:</u>	
Real Property Taxes	\$3,657,431
School Taxes	\$3,248,998
Sales Taxes	\$582,412
Sub-total	\$7,488,840
<u>Businesses:</u>	
Real Property Taxes	\$419,028
School Taxes	\$371,728
Personal Property Taxes	\$79,076
Sales Taxes	\$746,371
Sub-total	\$1,616,203

Table 1: cont'd**Sources of Tax Revenues****Public Revenues per Year - 2011****Combined Impacts:**

Real Property Taxes	\$4,076,458
School Taxes	\$3,620,726
Personal Property Taxes	\$79,076
Sales Taxes	\$1,328,783
TOTAL ANNUAL FISCAL REVENUES	\$9,105,043

SOURCE: W. H. Owen Consulting

Return on Public Investment

Another common measure of the effectiveness of investments in economic development is a calculation of "return-on-investment" (ROI) which compares the level of local public investment to the amount of estimated local fiscal benefits measured in terms of tax revenues. The following exhibit summarizes the annual public funding allocated by local counties, cities, and the FHTCC to underwrite the operations of UCF's incubators.

Table 2: SUMMARY OF PUBLIC FUNDING, UCF INCUBATION PROGRAM, 2002-2011

<i>Year</i>	<i>Annual Funding</i>	<i>Cumulative Total</i>
2002	\$250,000	<i>\$250,000</i>
2003	\$250,000	<i>\$500,000</i>
2004	\$250,000	<i>\$750,000</i>
2005	\$250,000	<i>\$1,000,000</i>
2006	\$250,000	<i>\$1,250,000</i>
2007	\$550,000	<i>\$1,800,000</i>
2008	\$875,000	<i>\$2,675,000</i>
2009	\$875,000	<i>\$3,550,000</i>
2010	\$1,097,000	<i>\$4,647,000</i>
2011	\$1,807,000	<i>\$6,454,000</i>

SOURCE: UCF; W. H. Owen Consulting, Inc.

For the first eight years, funding was limited to the first five (now four) incubators addressed in the 2009 study. In 2010 and 2011, five new facilities have come on-line and public funding commitments have increased commensurately. Total annual funding for all nine facilities has reached just over \$1.8 million in 2011. Over the past ten years (2002-2011) public government funding commitments have reached a cumulative total of \$6.45 million.

There are several ways to compare costs and benefits or to express the “*return on investment*” of these public dollars. Consider the following:

- ✓ Annual public revenues attributed to client and graduate companies of the UCF Incubation Program are estimated to be at least \$9.1 million annually in 2011. This amount reflects an **annual ROI of 141%** on the total ten-year public investment to support UCF’s incubator programs.
- ✓ When the \$9.1 million annual fiscal benefit is compared to the total public funding in 2011 alone, it can be seen that the ROI is **\$5.04 for every \$1.00 invested.** The annual benefits are five times the annual investment, even though five incubators are only just getting fully underway.
- ✓ When only the annual investment in the initial five incubators is considered (2009 is the last year that only those facilities were operating) – the source of all graduate companies -- the **ROI in 2011 rises to more than \$10 for every \$1.00 invested,** (compared to \$5.25 in the 2009 RERC impact study).

By any measure, the public ROI on the UCF incubator program investment is remarkable.

Table 3: RETURN ON PUBLIC INVESTMENT, UCF INCUBATION PROGRAM

Real Property Taxes	\$4,076,458
School Taxes	\$3,620,726
Personal Property Taxes	\$79,076
Sales Taxes	<u>\$1,328,783</u>
 Total Tax Revenues	 \$9,105,043
 Annual Public Investment (2011)	 \$1,807,000
Return on Annual Investment per \$1.00	\$5.04
 Ten-year Investment	 \$6,454,000
Annual Return on 10-Year Investment	141%

SOURCE: W. H. Owen Consulting, Inc.

Benchmarks for Successful Incubation Programs

While quantitative evaluation of economic impacts is one measure of a successful incubation program, there are important characteristics related to services provided for client companies and sophistication of facility management that contribute immensely to the success of start-up businesses within incubators. The UCF Business Incubation Program (UCFBIP) has continually demonstrated excellence in both of these areas. As part of this analysis, I have reviewed some of the latest publically available information regarding “best practices” among the most highly regarded incubation programs in the United States. To assess the efficacy of the UCFBIP, I also visited several of the newer incubators to discuss programmatic issues with on-site managers and select clients.

In the following pages, I have summarized conclusions drawn from recent reports funded by the U. S. Department of Commerce, Economic Development Administration (EDA) and prepared by the University of Michigan Institute for Research on Labor, Employment, and the Economy in cooperation with the National Business Incubation Association (NBIA).

“A business incubation program’s main goal is to produce successful firms that will leave the program financially viable and freestanding.”¹

“With fundamental transitions occurring in the U.S. economy, government officials and others recognize that the new economy must feature innovation, entrepreneurship, technology commercialization, new venture creation, and business incubation and acceleration as fundamental elements. While there is no one solution for overall economic development, the findings from this study suggest that business incubation positively influences entrepreneurial success.”²

The research study referenced herein screened almost 1,200 business incubation programs nationally for maturity, objectives, operations, and sponsorship. There were 376 programs invited to respond to a comprehensive survey, with more than 100 valid responses tabulated. I have paraphrased the key findings of the University of Michigan study regarding the indicators of a successful incubation program in the following paragraphs:

1) *No one incubator practice, policy, or service is guaranteed to produce incubation program success. Instead, it’s the synergy among multiple practices, policies, and services that produce optimal outcomes.* In other words, there is no “magic bullet.” The needs of incubator clients vary depending on their level of development, industry sector, and management skills. It is the relationship between helpful policies and services that matter most to incubator success.

2) *Top-performing incubation programs often share common management practices.* Practices most represented among high-achieving programs are having a written mission statement, selecting clients based on cultural fit, selecting clients based on potential for success, reviewing client needs at entry, showcasing clients to the

¹ “Incubating Success: Incubation Best Practices that Lead to Successful New Ventures,” David A. Lewis, Elisa Harper-Anderson, Lawrence A. Molnar, 2011, University of Michigan, Institute for Research on Labor, Employment, and the Economy, Funded by U.S. Department of Commerce, EDA

² *ibid*

community and potential funders, and having a robust payment plan for rents and service fees. All of these practices are highly correlated with client success.

3) *Incubator advisory board composition matters.* This study found that government and economic development agency representatives can play key roles in enhanced client firm performance, as their presence ensures that the incubator is embedded in the community, which is necessary for its success. Local government and economic development officials also help educate critical funding sources about the incubation program and its successes.

4) *Neither the size of an incubator facility nor the age of a program is a strong predictor of client firm success.* Many incubator funders and practitioners perceive that the size and age of an incubator are key determinants of success. However, this research underscores that it is the incubator's programming and management that matter most.

5) *High-achieving incubators collect client outcome data more often and for longer periods of time than their peers.* Overall, two-thirds of top-performing incubators collect outcome data. More than half collect this information for two or more years. Collected data include client and graduate firm revenues and employment, firm graduation and survival rates, and information on the success of specific program activities and services. This finding could suggest that collecting outcome data demonstrates a positive return on investment and ensures continued program funding, leading to a situation in which success breeds success.

6) *Most high-achieving incubators are not-for-profit models.* This finding suggests that incubation programs focused on earning profits are not strongly correlated to client success. Instead, the most important goals of top-performing incubation programs are creating jobs and fostering the entrepreneurial climate in the community, followed by diversifying the local economy, building or accelerating new industries and businesses, and attracting or retaining businesses to the host region.

7) *Public sector support also contributes to program success.* Almost all of the top-performing incubation programs in this study operate with significant public sector support from local government agencies, economic development groups, colleges or universities, or other incubator sponsors. On average, nearly 60% of an incubator's budget is accounted for by client rent and service fees. Thus, this research suggests that some level of public sector investment contributes to greater incubator outcomes in terms of job creation, graduation rates, etc.

8) *Incubation programs with larger budgets (both revenues and expenditures) typically outperform incubators with budget constraints.* Programs with more financial resources have more capacity to deliver critical client services and are more stable. However, the sources of incubation program revenues and the ways the incubator uses these resources also are important. This study found that incubators receiving a larger portion of revenues from rent and service fees perform better than other programs. On the expenditure side, the more programs invest in staffing and program delivery the higher the probability of improved client outcomes.

9) *All measures of the growth or size of a host region's economy are poor predictors of incubation program outcomes.* Incubator management practices are better predictors of incubator performance than the size or growth of the region's employment or GDP.

10) *Collectively, measures of a region's capacity to support entrepreneurship have limited effect on incubation program outcomes.* Compared with incubator quality variables, regional capacity variables have less predictive power.

11) *The findings provide empirical evidence that business incubation best practices are positively correlated to incubator success.* Specifically, practices related to the composition of advisory boards, hiring qualified staffs that spend sufficient time with clients, and tracking incubator outcomes result in more successful incubation programs, clients, and graduates.

Best Practices In Successful Incubation Programs

The University of Michigan research study also defined what would be considered “best practices” found in the operations of successful incubation programs. As noted in the key conclusions summarized above, the success of client businesses is primarily based upon the supporting services provided and the management style of the incubation program. The UCFBIP excels in both of these respects, even despite the rapid growth of the system from five to nine facilities. Conversations with client and graduate companies confirm that the UCFBIP’s commitment to active on-site management and delivering frequent and valuable services and professional resources have been crucial to their firms’ ability to emerge, stabilize, and grow financially viable. In fact, proximity of the individual incubator to the core facilities at UCF correlates directly to clients’ ability to access such services on a regular basis. Some clients consider this a factor when choosing which incubator they want locate in.

In an NBIA research project conducted by Wolfe, Adkins, and Sherman in 2000, researchers examined business incubator best practices in ten major domains. These areas included: comprehensive business assistance programs, professional infrastructure, client capitalization and financing, client networking, technology licensing and commercialization, university and federal laboratory linkages, facility basics, governance and staffing, client screening and graduation, and incubator evaluation.³

Services that are statistically significantly related to client firm performance include: (1) providing entrepreneurial training (from business basics to comprehensive training in managing a new enterprise); (2) offering increased access to investment capital; (3) securing strong supportive relationships with local area higher education institution(s); (4) providing production assistance (from R&D and prototyping through to engineering production systems); and (5) developing strong mentors. In addition, incubation programs should not overlook the obvious services needed by start-up businesses and provide high-speed broadband Internet access, shared administrative services and office equipment, and assistance with client presentation and business etiquette skills.⁴

Services that all top-performing incubators provide include:⁵

- ✓ Help with business basics
- ✓ Shared administration/equipment
- ✓ Accounting
- ✓ High-speed broadband Internet

³ ibid

⁴ ibid

⁵ ibid

- ✓ Networking activities among incubator clients
- ✓ Marketing assistance
- ✓ Human resource training
- ✓ E-commerce assistance
- ✓ Comprehensive business training
- ✓ Presentation skills training
- ✓ Help with business etiquette

Management practices most represented among top-performing incubators: ⁶

- ✓ Have a written mission statement
- ✓ Select clients based on cultural fit
- ✓ Select clients based on potential success
- ✓ Review client needs at entry
- ✓ Stakeholders/sponsors support/understand mission/goals
- ✓ Showcase clients within the community
- ✓ Offer robust payment plan for rent/service fees

In addition to the basic package of services described above, the UCFBIP has long set a standard of excellence that has demonstrated its leadership among the nation's top programs. Recognized as early as 2004 by the NBIA as the nation's *Incubator of the Year*, UCFBIP goes well beyond the norm by providing or connecting clients with such programs and services as:

- Education about and networking with related community organizations;
- Financial guidance and accounting services;
- Legal guidance with business, industry, or intellectual property issues;
- Strategic planning with commercialization of intellectual property;
- Public relations and marketing assistance;
- Sales guidance and referrals;
- Grants research and preparation;
- Recruitment and organization of intern programs;
- Training in ethics and industry compliance;
- Association with the Disney National Entrepreneur Center (NEC), SCORE, and local small business development centers.

Clients interviewed for this study frequently stated that UCFBIP provided “unprecedented connections with resources and networks.” Staff offers a full plate of opportunities for learning and professional development; it is only up to the client (and expected) to take advantage of these resources.

All of the UCFBIP incubators are located in productive business environments where related industries, educational institutions, government agencies, and supporting commercial services are readily available, often within walking distance. Two of the newer incubators I visited also incorporate small business development and/or economic development services. In every incubator I visited, staff reaches out to the broader local business community, offering seminars, training, networking, or other types of business assistance to non-clients. As a result, all of the UCFBIP incubators have become crucial and welcome members of the business community.

By any measure I could identify, the UCFBIP is an unqualified and resounding success.

⁶ ibid



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