



October 3, 2018

Mr. Daniel Timberlake
Director
Department of Planning and Budget
1111 East Broad Street, Room 5040
Richmond, Virginia 23219

Dear Mr. Timberlake:

Enclosed please find the FY2018 Expenditure Report for the Innovation and Entrepreneurship Investment Authority and Center for Innovative Technology. The attached report fulfills the requirements of the Code of Virginia, §2.2-2221.1.B. (includes reporting requirements of Item 126.10.D.1 of the 2018 Appropriations Act).

Please feel free to call me at 703-689-3021 if you have any questions.

Sincerely,

Susan Aitcheson
CFO
Center for Innovative Technology

cc: The Honorable Brian Ball, Secretary of Commerce and Trade
Mr. Robby Demeria, Deputy Secretary, Commerce and Trade
The Honorable Emmett W. Hanger, Jr., Co-Chairman, Senate Finance Committee
The Honorable S. Chris Jones, Chairman, House Appropriations Committee
Ms. April Kees, Staff Co-Director, Senate Finance Committee
Ms. Samantha Martin, Budget and Policy Director, Department of Planning and Budget
Mr. Bernard Mustafa, CIT BOD Finance Committee Chair
The Honorable Thomas K. Norment, Jr., Co-Chairman, Senate Finance Committee
Mr. Jason Powell, Staff Co-Director, Senate Finance Committee
Mr. Michael Steed, CIT Chairman of the Board
Mr. Robert P. Vaughn, Staff Director, House Appropriations Committee
Ms. Toni Walker, Associate Director, Department of Planning and Budget

CENTER FOR INNOVATIVE TECHNOLOGY
And
INNOVATION AND ENTREPRENEURSHIP INVESTMENT AUTHORITY
Financial Performance Reporting
Fiscal Year Ended June 30, 2018
Items 126.10.D.1.a-e



Item 126.10.D.1.a

**All planned and actual
revenue and
expenditures along with
funding sources**

BUDGET ANALYSIS

For the Fiscal Year Ended June 30, 2018

Commonwealth Projects Funded by Appropriation & Other Revenue

(In Thousands)

ACTUAL -July 2017 - June 2018

	<u>Actual</u>	<u>Budget</u>	<u>Variance</u>
Revenue			
Commonwealth Appropriation - General Fund	\$ 11,311	11,055	\$ 256
Interest, Sponsorship, Return on Investments & Misc. Income	2,443	515	1,928
Total Revenue	13,754	11,570	2,184
Program Expenses			
R&D - Commonwealth Research and Technology Strategic Roadmap	51	50	1
R&D - Innovation and Entrepreneurship Management System	66	55	11
R&D - Commonwealth Research Commercialization Fund (CRCF)	3,812	3,359	453
Entrepreneur - Federal Proposal Assistance	263	279	(16)
Entrepreneur - Growth Acceleration Program (inc. VFF)	4,892	4,745	147
Broadband - Office of Telework Promotion	13	12	1
Broadband - Broadband Planning and Assistance	673	784	(111)
Commonwealth - Cyber Accelerator-MACH37	432	846	(414)
Commonwealth - Regional Growth	192	224	(32)
Commonwealth - Cyber Commission	338	545	(207)
Commonwealth - Unmanned Systems	272	60	212
Commonwealth - Unmanned Systems Center of Excellence	179	91	88
Commonwealth - Information Sharing and Analysis Organization	605	-	605
Commonwealth - Building Management	13	17	(4)
Program Expenses	11,801	11,067	734
Other Expenses			
Marketing, Advocacy, Fundraising and Miscellaneous	241	300	(59)
Transfer of equity from M37 EP to CIT and MACH37 losses	231	-	231
Unapplied (over-applied) indirects	(432)	104	(536)
Other Expenses	40	404	(364)
Total Expenses	11,841	11,471	370
Net	1,913	99	1,814

Strategic Initiatives Funded by Contracts & Grants

Entrepreneur

Program Revenue - State Small Business Credit Initiative Fund	24	-	24
Program Expense	24	-	24
Profit/(Loss)	-	-	-
Program Revenue - SBA FAST	39	28	11
Program Expense	39	28	11
Profit/(Loss)	-	-	-
Program Revenue - DMME Commonwealth Energy Fund	138	-	138
Program Expense	170	-	170
Profit/(Loss)*	(32)	-	(32)

*covered by return on investment proceeds received in FY2016

Strategic Initiatives

Program Revenue - Smart City Actuator	62	63	(1)
Program Expense	11	47	(36)
Profit/(Loss)	51	16	35
Program Revenue - DHS SCIIP	1,038	-	1,038
Program Expense	964	-	964
Profit/(Loss)	74	-	74
Program Revenue/Donations - Events (UWIC/Hackathon/Datathon)	85	-	85
Program Expense	58	-	58
Profit/(Loss)	27	-	27

Commonwealth Projects Funded by Appropriation & Other Revenue

(In Thousands)

ACTUAL - July 2017 - June 2018

	Actual	Budget	Variance
Program Revenue - UVA Wise Verizon Grant	11	-	11
Program Expense	11	-	11
Profit/(Loss)	-	-	-
Program Revenue - Slovakia	80	-	80
Program Expense	80	-	80
Profit/(Loss)	-	-	-
Program Revenue	1,477	91	1,386
Program Expenses	1,357	75	1,282
Net	120	16	104

Consolidated Revenue, Expenses and Changes in Net Position

Revenue	15,231	11,661	3,570
Expenses	13,198	11,546	1,652
Change in Net Position	2,033	115	1,918
Beginning Net Position	6,678	6,604	74
Ending Net Position	\$ 8,711	\$ 6,719	\$ 1,992

INNOVATION AND ENTREPRENEURSHIP INVESTMENT AUTHORITY
BUDGET ANALYSIS FOR BUILDING OPERATIONS ONLY
 For the Fiscal Year Ended June 30, 2018

BUILDING ANALYSIS	In thousands		
	ACTUAL - July 2017 to June 2018		
	<u>Actual</u>	<u>Budget</u>	<u>Variance</u>
REVENUE			
Rental Income - lease revenue	\$ 1,572	\$ 1,556	\$ 16
Total Revenue	<u>1,572</u>	<u>1,556</u>	<u>16</u>
BUILDING EXPENSES			
Payroll	282	285	(3)
Utilities	387	408	(21)
Administrative	141	145	(4)
Operating & Maintenance	96	138	(42)
Contracts	411	420	(9)
Insurance	100	100	-
Food Service Subsidy	52	42	10
Leasing Commission and Miscellaneous	55	18	37
Total Expenses	<u>1,524</u>	<u>1,556</u>	<u>(32)</u>
Net Income	<u>\$ 48</u>	<u>\$ -</u>	<u>\$ 48</u>

Item 126.10.D.1.b

**Listing of
Salaries, bonuses,
and benefits**

Innovation and Entrepreneurship Investment Authority including Center for Innovative Technology

Item 126.10.D.2

"A listing of the salaries, bonuses, and benefits of all employees of the Innovation and Entrepreneurship Investment Authority and the Center for Innovative Technology"

Fiscal Year 18 Actuals**Note:**

- CIT benefits include: health, life, and disability insurance, retirement, payroll taxes, and cell phone allowance

<u>Title</u>	<u>Base Salary</u>	<u>Benefits</u>	<u>Total</u>
Administrator 1	\$54,898.81	\$31,580.48	\$86,479.29
Administrator 2	\$60,776.83	\$38,679.34	\$99,456.17
Analyst 1	\$48,440.63	\$25,898.71	\$74,339.34
Assistant 1	\$59,552.20	\$30,113.47	\$89,665.67
Assistant 2	\$70,873.99	\$40,100.82	\$110,974.81
Assistant 3	\$59,228.50	\$37,833.68	\$97,062.18
Director 1	\$101,384.71	\$46,685.75	\$148,070.46
Director 2	\$122,044.18	\$35,317.43	\$157,361.60
Director 3	\$0.00	\$683.54	\$683.54
Director 4	\$131,385.18	\$52,064.56	\$183,449.74
Director 5	\$53,007.15	\$21,042.90	\$74,050.05
Director 6	\$102,964.96	\$31,416.16	\$134,381.12
Director 7	\$157,201.34	\$55,566.27	\$212,767.62
Director 8	\$0.00	\$1,115.54	\$1,115.54
Director 9	\$55,489.07	\$9,309.41	\$64,798.48
Director 10	\$118,927.03	\$42,280.49	\$161,207.53
Manager 1	\$0.00	\$2,652.07	\$2,652.07
Manager 3	\$77,745.87	\$26,119.62	\$103,865.49
Manager 4	\$73,653.18	\$41,226.21	\$114,879.39
Manager 5	\$112,181.10	\$33,351.56	\$145,532.66
Manager 7	\$119,975.88	\$34,543.00	\$154,518.87
Officer 1	\$161,047.25	\$49,259.64	\$210,306.89
Officer 2	\$300,364.72	\$68,373.82	\$368,738.53
Specialist 1	\$56,853.25	\$21,574.33	\$78,427.58
Specialist 2	\$48,504.97	\$35,555.27	\$84,060.24
Specialist 3	\$0.00	\$140.78	\$140.78
Vice President 1	\$207,670.45	\$62,830.08	\$270,500.54
Vice President 2	\$194,994.87	\$53,186.12	\$248,180.99
Vice President 3	\$0.00	\$231.18	\$231.18
Vice President 4	\$160,696.15	\$49,072.45	\$209,768.60
Vice President 5	\$231,724.35	\$66,192.89	\$297,917.24
Vice President 6	\$97,492.89	\$42,602.01	\$140,094.91
Total	\$3,039,079.50	\$1,086,599.57	\$4,125,679.07

Item 126.10.D.1.c

**By program,
Total grants and
Investments,
Including CRCF**

Center for Innovative Technology
Investments Made and Return on Prior Investments
For the year ended June 30, 2018

Investments made:

	<u>Actual</u>	<u>Budget</u>	<u>Variance</u>
Advanced Aircraft	\$ 50,000.00		
Aquanta (Sunnovations)	100,000.00		
ChurnZero	100,000.00		
Contraline	125,000.00		
Cosha (Hashlit)	50,000.00		
Cyber Academy (Network Security)	50,000.00		
Cynja Tech	50,000.00		
CytoRecovery	50,000.00		
DeepSig	200,000.00		
EdConnective	50,000.00		
FarmRaiser	100,000.00		
Hideez	50,000.00		
Hungry	100,000.00		
INF Robotics	25,000.00		
Loci	15,000.00		
MarginEdge	100,000.00		
Pype	100,000.00		
RunSafe	150,000.00		
Rybbon	100,000.00		
Status Identity	100,000.00		
Student Opportunity Center	50,000.00		
Tear Soutlion	223,956.00		
ThreatLocker	50,000.00		
Ubiquity Link	50,000.00		
UpSideDoor	200,000.00		
	<u>\$ 2,238,956.00</u>	<u>\$ 2,270,000.00</u>	<u>\$ (31,044.00)</u>

Return on Prior Investments, including gains and losses:

BioTherapeutics	\$ 155,000.00
ChurnZero	4,953.42
Clearedge	524,509.07
Cyberalgorithms	1,072.45
DivvyCloud	28,602.74
GCPay	178,947.95
Invincea/Sophos	110,459.85
Lewis & Clark	50,000.00
Phthisis Diagnostics	10,818.00
Ringobon	65,000.00
RunSafe Security	27,617.81
Synoptos	56,795.00
Triblio	275,501.01
TypeZero	414,208.00
UpsideDoor	1,438.36
	<u>\$ 1,904,923.66</u>

CRCF Grants Awarded

See attached

Center for Innovative Technology
FY2018 CRCF Award Detail

Organization Name	Project Title	Project Start Date	Project End Date	Award Amount
Adaptive Aerospace Group, Inc.	<i>High-Integrity Safe Autonomy Flexible Innovation Testbed (SAFIT)</i>	8/1/2018	7/31/2019	\$50,000
AgroSpheres	<i>AgroSpheres Enhanced Crop Protection</i>	06/18/2018	06/24/2019	\$50,000
AVEC, Inc.	<i>Noise Reduction of a Continuous Miner Scrubber Fan System Using an Acoustic Liner</i>	8/16/2018	5/16/2019	\$50,000
BEAM Diagnostics, Inc	<i>BEACON: A Commercial Tool for Clinicians to Assess Alcohol Reinforcer Pathology with Behavioral Economic Tasks</i>	06/16/2018	12/31/2018	\$14,720
BlackBoiler, LLC	<i>Automatic Contract Editing in Two Party Negotiation with Lexical Decomposition and Deep Learning Based Semantic Understanding</i>	07/01/2018	12/31/2018	\$50,000
Blue Point Materials Research LLC	<i>Development of a Material for Reduction of Infections in Orthopedic Implants</i>	07/01/2018	06/30/2019	\$50,000
BrachyFoam, LLC	<i>Development and Validation of Delivery System for Commercialization of Self-Expanding Hydrogel for Pelvic Brachytherapy</i>	06/16/2018	06/15/2020	\$50,000
Clockwork, LLC	<i>1st Diligence</i>	06/16/2018	6/15/2019	\$50,000
College of William and Mary	<i>Developing Acoustic Technology to Reduce Birds' Risks of Collision with Wind Turbines: Expanding Wind Energy Opportunities in Virginia</i>	08/01/2018	07/31/2019	\$99,711
Commonwealth Center for Advanced Logistics Systems (CCALS)	<i>Development of Secure Compartmentalized Automated Refrigerated Storage (SeCARS) for Controlled Medicines</i>	07/01/2018	06/30/2019	\$100,000
Commonwealth Center for Advanced Logistics Systems (CCALS)	<i>Addressing the Logistical Challenge of Medication Reconciliation in Emergency Medicine Settings</i>	07/01/2018	06/30/2019	\$100,000
DeepSig Inc.	<i>Wireless Cyber Intrusion Detection</i>	07/02/2018	5/25/2019	\$25,000
Embody LLC	<i>Biofabrication of Telocollagen-Based Regenerative Medical Devices for Ligament and Tendon Repair</i>	06/18/2018	06/18/2019	\$50,000
George Mason University	<i>Recruiting Eminent Cybersecurity Researcher</i>	07/01/2018	06/30/2020	\$250,000
George Mason University	<i>From Unidentifiable and Undruggable to the Future of Pharmaceuticals: Protein Painting Reveals High-Value Protein-Protein Interactions as Drug Targets</i>	06/18/2018	06/14/2019	\$99,586
Iconovast	<i>Janus Nanoparticles for the Detection and Treatment of Cancer</i>	9/17/2018	9/16/2019	\$50,000
James Madison University	<i>Sustainable Energy from Radio Waves</i>	07/01/2018	12/31/2019	\$59,533
MR Technologies	<i>The Cytogenetic Diagnostic Tool: PRECYSE</i>	06/16/2018	05/31/2019	\$49,963
Old Dominion University Research Foundation	<i>Cyber Risk Scoring and Mitigation</i>	07/01/2018	06/30/2019	\$100,000
Old Dominion University Research Foundation	<i>Highly-Transmissive Colored Coatings for Architectural Photovoltaic Panels</i>	07/01/2018	06/30/2019	\$100,000
Pancopia, Inc.	<i>Commercialization Testing of Low Cost Nitrogen Removal Technology</i>	07/02/2018	01/31/2019	\$50,000
Quest Knight Enterprises	<i>Unmanned Systems Platform Sensor Workforce Development</i>	06/16/2018	04/16/2019	\$48,635
Sentek Instrument, LLC	<i>Ultra-High Temperature Sensors for Clean Power Generation Systems</i>	07/23/2018	07/19/2019	\$50,000
Service Robotics & Technologies	<i>SRT's Map-Building Robot for Creating Visual Facility Maps</i>	06/18/2018	05/31/2019	\$50,000
Tympanogen	<i>Manufacturing Feasibility of a Gel Patch for Nonsurgical Eardrum Repair</i>	07/01/2018	12/31/2018	\$50,000

Organization Name	Project Title	Project Start Date	Project End Date	Award Amount
University of Virginia	<i>Optimizing Anemia Dosing Algorithms by Leveraging EMR Data to Improve Outcomes in End Stage Renal Disease</i>	07/01/2018	06/30/2019	\$99,944
University of Virginia	<i>Nano-Enhanced Vaccine for Melanoma</i>	07/01/2018	06/30/2019	\$100,000
University of Virginia	<i>Anti-Icing Surfaces for Wind Energy Turbine Blades and Energy Savings in Refrigeration Systems</i>	07/01/2018	12/04/2019	\$100,000
Virginia Commonwealth University	<i>Development of a Click Hydrogel Carrier for In Situ Delivery of Bioactive Agents</i>	07/01/2018	06/30/2019	\$100,000
Virginia Institute of Marine Science	<i>Progeny Tests of Triploids to Establish Additive Advantages from Tetraploid Parents for Commercial Oyster Culture</i>	08/01/2018	08/01/2020	\$83,207
Virginia Tech	<i>Cybersecurity for the Internet of Things</i>	08/10/2018	08/09/2020	\$250,000
Virginia Tech	<i>Ultra-Miniature Ultra-High Temperature Sapphire Sensor for Power Generation</i>	8/1/2018	7/31/2019	\$100,000
Virginia Tech	<i>An Automated and Cost-Effective Lithium-Ion Battery Direct Recycling Process</i>	06/16/2018	06/15/2019	\$100,000
WynnVision LLC	<i>Antimicrobial Catheters with Cell and Tissue Compatibility</i>	06/16/2018	05/31/2019	\$50,000

Item 126.10.D.1.d

By program,
projected economic
Impact on COV
and recoveries of
previous grants or
investments and
sales of equity positions



September 1, 2018

In accordance with Item 126.1.N of the 2018 Appropriation Act, the Center for Innovative Technology (CIT) is pleased to submit the following report on behalf of the Innovation and Entrepreneurship Investment Authority (IEIA). This item requires that information be reported annually on three of CIT's programs designed to grow the innovation and entrepreneurship sectors of Virginia's economy.

1. Activities associated with providing localities with broadband assistance.
2. Activities associated with the Growth Accelerator Program (GAP).
3. Activities associated with the cyber security accelerator (MACH37).
4. Reports should include prior fiscal year outcomes, program since inception, and changes anticipated in the subsequent fiscal year.

Section 126.1.N.1 – Broadband

During FY2018, CIT's Broadband program was funded through Commonwealth's appropriation of \$500,000 in addition to \$108,391 of remaining rollover funds not used during the short period (March through June) in FY2015, in which CIT's Broadband program was not under federal funding. For FY2018, the state funded program is designed to accelerate the socio-economic growth of Virginia's rural and underserved areas through the application and use of broadband telecommunications.

CIT's Broadband program is charged with providing broadband technical assistance to underserved localities throughout the Commonwealth. CIT serves as Virginia's leading resource for broadband technical assistance and a repository for broadband-related information and tools. CIT works collaboratively with other state and federal entities including but not limited to: National Telecommunications and Information Administration (NTIA), Department of Housing and Community Development (DHCD), Virginia Tobacco Region Revitalization Commission (TRRC), Virginia Resources Authority (VRA), Virginia Information Technologies Agency (VITA), Virginia Tech's Virginia Geographic Information Network (VGIN), Virginia Planning District Commissions, and others to help close the digital divide in the Commonwealth. CIT also staffs the Broadband Advisory Council in its pursuit in identifying and resolving barriers to broadband deployment. CIT also leverages its methodology, *The Broadband Path*, to assist Virginia localities in conducting assessments and helps to facilitate public-private partnerships. CIT's Broadband Path has been nationally recognized and is distinctive because it produces tangible, goal-driven, fiscally achievable broadband solutions at no cost to the locality.

The FY2018 activity summarized below, in response to Section 126.1.N.1 of the Appropriation Act, was state funded activity.

- I. Broadband technical assistance provided:
 - a. Delivered six comprehensive assessments.
 - b. Provided assistance to 20 Virginia localities and many state and federal agencies, associations and legislators.
 - c. CIT continued to support the Broadband Advisory Council.
 - d. CIT continued to maintain the Office of Telework Promotion and Broadband Assistance website (wired.virginia.gov), resources and tools used in assessing needs, planning broadband deployments, and raising awareness to increase adoption and utilization.
 - e. CIT continued to leverage its proven methodology – *The Broadband Path* – to assist localities by conducting a comprehensive assessment, identifying the locality’s unique needs and facilitating public-private partnerships.
 - f. Provided expertise on broadband-related bills during the 2018 Virginia General Assembly including helping to draft four bills, all of which passed.

- II. The estimated number of households and localities with populations lacking wired broadband access:
 - a. Based on December 2016 data (the most recent FCC Form 477 data available), 9.4% of Virginia localities have 30% or more households that have no fixed broadband access based on the FCC’s definition of broadband (25 Mbps download and 3 Mbps upload).
 - b. 6.2% of households have no access to even basic fixed broadband (10 Mbps download and 1 Mbps upload).

Section 126.1.N.2 – The Growth Accelerator Program (GAP)

The GAP Fund was established to meet the early stage capital demands challenging the Commonwealth's most promising science and technology-based start-ups whose funding requirements could not be met by traditional financing means. GAP Fund investments are governed by the goal of developing the next generation of Virginia's science and technology economy and the entrepreneurial ecosystem required to support that economy. To this end, the GAP Fund places equity and convertible debt investments in tech, clean-tech and life science companies at the earliest stages of company formation, in a manner conducive to stimulating significant private investment or "leverage cash" as a result of CIT's deployment of public dollars.

Fundamental to CIT's ability to successfully deliver private capital is that, unlike grant programs, CIT holds an ownership position in the investee company and maintains that ownership for a multi-year holding period of indeterminate length while the company grows in scope of operations and value. CIT recovers GAP Program investments only upon a liquidity event such as a public offering or change of control for the company.

Underwritten by an annual appropriation from the Virginia General Assembly, the GAP Fund Program functions as a double-bottom-line investment fund focused on creating significant economic outcomes for the Commonwealth, entrepreneurs and co-investors, with the goal of recovering investment capital for redeployment. Since inception, the GAP Fund Program has considered investing in over 5,000 companies and has invested \$25.2M in 200¹ seed and early stage technology, life science, and energy companies across the Commonwealth of Virginia.

Over the 14-year life of the program, CIT has found that the following metrics most closely align with program objectives:

- **Venture and Angel Capital Attracted** - Venture and angel capital dollars invested in the GAP Fund Program's portfolio companies as a result of CIT investing dollars appropriated to IEIA and obtained from federal and private sources. CIT calculates its annual leverage factor by dividing the total of venture and angel capital by all GAP Fund Program portfolio companies in a given year by the dollars deployed in new investments in that year.
- **GAP Fund Program Return** - The ratio of capital returned and anticipated to return to CIT as a result of portfolio companies being acquired, divided by total GAP Fund Program dollars deployed.

Venture and Angel Capital Attracted. For the period FY18 and inception-to-date, the GAP Fund Program achieved the following leverage cash totals:

- **FY18** – During FY18, CIT GAP Funds invested \$2.2M. In FY18, CIT attracted \$185.3M in angel and venture dollars – inclusive of FY18 new investments, FY18

follow-on investments and pre-existing investments in which CIT did not invest in FY18, for an annual leverage factor of 82.8.

- Inception-to-Date – Since inception, CIT GAP Funds has invested \$25.2M. CIT has attracted \$770.7M in angel and venture dollars, for an inception-to-date leverage factor of 30.6.

Important to note in these ratios is the impact of economic conditions with respect to the ability of GAP portfolio companies to attract leverage capital. Poor economic conditions may result in a lower capital attraction ratio due to investor withdraw from the early stage asset class which is not a direct reflection of changes or performance in the GAP program structure and operations.

GAP Fund Program Return. By the end of FY18, CIT had secured and invested a total of \$25,174,244 program inception-to-date and had a projected capital return of \$31,344,160 on invested funds, resulting in a capital return factor of 1.2. This number indicates that CIT is managing Virginia's GAP Funds Program appropriation consistent with its goal to return funds to preserve the base of funds for future investment in Virginia's early stage companies.

Company Residency Requirements – CIT GAP Funds requires that all companies be headquartered and have substantial business operations in Virginia at the time of investment and for a minimum three-year period thereafter. MACH37 requires that all companies establish a significant presence in the Commonwealth within a 24-month period of graduation from the MACH37 Accelerator. Significant economic penalties – discussed below - apply to companies in breach of these requirements.

CIT Enforcement of GAP Portfolio Company Residency – Over the life of the GAP Program, CIT's policy and practice regarding remedies that invoked as a result of an investee company's departure from the state has evolved, matured and become more specific:

In FY05, with the start of the GAP Fund program, CIT established its initial policy regarding company residency requirements. As at that time all CIT's investments were in the form of a convertible debenture, our loan covenants explicitly addressed this issue. Under that policy, if a portfolio company were to relocate to another state, CIT -- at its option – could invoke one of two remedies: (1) CIT could demand the immediate payback of all principal and interest; or, (2) upon note conversion to equity, CIT could invoke a deeper discount percentage (50% v the 20% of the initial note).

In FY13, CIT revisited this policy and added redemption language to address all equity agreements. In FY14, CIT further refined this language. The current policy and practice, memorialized in CIT GAP Funds transaction covenants, is as follows:

- Equity Investments: If a company relocates its primary business from the Commonwealth within 36-months of CIT investment, CIT retains its equity position in the company and is paid a penalty fee equal to two times CIT's

investment. Also within 36-months of CIT's investment, if the Company accepts any direct or indirect funding from a publicly funded economic development or company attraction entity requiring temporary or permanent relocation of the Company's headquarters or any member of the Company's senior management outside of the Commonwealth of Virginia, Company shall be required to pay CIT a penalty equal to two times (2x) CIT's principal investment.

- **Convertible Debt Investments:** If a company relocates its primary business from the Commonwealth within 36-months of CIT investment, CIT can convert into common shares at a 50% discount or elect to be paid back principle plus interest. If the note has previously been converted, then CIT will be paid a penalty fee equal to CIT's principle investment. Also within 36-months of CIT's investment, if the Company accepts any direct or indirect funding from a publicly funded economic development or company attraction entity requiring temporary or permanent relocation of the Company's headquarters or any member of the Company's senior management outside of the Commonwealth of Virginia, Company shall be required to pay CIT a penalty equal to two times (2x) CIT's principal investment, regardless of whether CIT holds debt or equity in the Company.

All MACH37 Accelerator investments are transacted as \$50K common stock equity investments designed to attract or retain cyber startups in Virginia. All companies receiving investments from MACH37 are located at CIT's offices in Herndon, VA for the three-month duration of their acceleration period and then have 24 months to establish a significant presence in Virginia. Covenants call for a full redemption of CIT's investment in the event that companies fail to establish a significant presence in Virginia. Also within 36-months of CIT's investment, if the company accepts any direct or indirect funding from a publicly funded economic development or company attraction entity requiring temporary or permanent relocation of the company's headquarters or any member of the company's senior management outside of the Commonwealth of Virginia, the company shall be required to pay CIT a penalty equal to two times (2x) CIT's principal investment.

The FY2018 activity below is provided in response to Section 126.10.N.2 of the Appropriation Act. Since GAP investments are, by design, seed stage and intended to leverage private investment and stimulate the next generation of new technology companies, job creation and tax revenue impact are longer-term objectives. Six of these companies were formed during FY18 to participate in MACH37 Cyber Security Accelerator.

- I. The number of companies receiving investment from the fund:
 - a. FY18: 25 companies
 - b. Inception-to-date: 200 companies
- II. The state investment and amount of privately leveraged investments per company:

- a. FY18: CIT invested \$2.2M and leveraged \$24.1M in angel and venture dollars on FY18 investments. During FY18, CIT's inception-to-date investments leveraged \$185.3M.
 - b. Inception-to-date: CIT has invested \$25.2M and has leveraged \$770.7M in angel and venture dollars, \$185.3M of which was leveraged during FY18.

- III. The estimated number of jobs created or preserved in Virginia during FY17:
 - a. FY18: 200 jobs in companies invested in by CIT in FY18
 - b. Inception-to-date: In FY18, companies reported that 1,860 jobs were created or preserved in FY18 by companies invested in by CIT in FY18 or before.

- IV. The estimated tax revenue generated during FY18:
 - a. FY18 investments:
 - i. Estimated 2018 corporate income tax: \$158,461ⁱⁱ
 - ii. Estimated 2018 personal income tax on jobs: \$1,437,500ⁱⁱⁱ
 - b. Inception-to-date:
 - i. Estimated 2018 corporate income tax: \$4,075,053^{iv}
 - ii. Estimated 2018 personal income tax on jobs: \$13,368,750^v

- V. The number of companies who have received investments from the GAP fund still operating in Virginia
 - a. FY18 investments: 24 out of 25
 - i. One has moved from the Commonwealth
 - 1. One is part of MACH37 and has returned to its place of origin and is working to establish a Virginia presence. CIT maintains a high level of visibility into those companies, including frequent interaction with the CEO and team, Board of Director observation rights and receipt of a required quarterly statute report.
 - b. Inception-to-date: 121 out of 200
 - i. 13 have moved from the Commonwealth
 - 1. One moved from Virginia to Connecticut. This company had received a \$100K convertible note from CIT - \$50K from Commonwealth-appropriated funds and \$50K resulting from a grant to CIT by Johnson & Johnson. In June of 2009, CIT elected to be paid back the \$50,000 Commonwealth-appropriated funds plus interest and to convert Johnson & Johnson grant-sourced \$50,000 principal and interest at a 50% discount.

2. Two moved from Virginia to other states after the 3 year requirement to be headquartered in Virginia timed out.
3. Eight are part of MACH37
 - a. Seven are part of MACH37 and have returned to their place of origin and are working to establish a Virginia presence. CIT maintains a high level of visibility into those companies, including frequent interaction with the CEO and team, Board of Director observation rights and receipt of a required quarterly statute report.
 - b. One is part of MACH37 and has returned to its place of origin and is past the required time horizon to establish a place of business in Virginia. The company has issued CIT a note for the amount of the penalty.
 - ii. 36 have failed
 - iii. 32 have been acquired or paid back CIT

VI. Return on investment

- a. FY18 investments: \$0
- b. Inception-to-date: \$5,878,778

VII. The number of investment that failed:

- a. FY18 investments: 0
- b. Inception-to-date: 36 failures, \$4,136,700 invested

VIII. Number of companies created or expanded and the number of patents filed during FY18:

- a. FY18:
 - i. Companies created or expanded: 25 companies
 - ii. Number of Patents filed: 25
- b. Inception-to-date:
 - i. Companies created or expanded: 200
 - ii. Number of Patents filed during FY18 by 134 companies: 74

Program Changes Anticipated in FY19

The combination of the GAP Funds, MACH37 Seed Fund, and Commonwealth Energy Fund will produce a projected 20 to 30 new investment transactions for Fiscal Year 2019. CIT will continue its work in examining how best to establish one or more private sector regionally-based or sector specific funds to augment financing obtained from the Commonwealth of Virginia for the purpose of investing in early stage companies.

MACH37 will enter its sixth year of accelerator operations in Fiscal Year 2019. The program will continue to conduct two annual cohort sessions, one in the spring and one in the fall. Each cohort session will contain between 5 and 8 companies. In FY19, MACH37 operations will continue to be self-sustaining through private sector participation.

Portfolio Companies

Attached is a listing of GAP portfolio companies for the prior year and program since inception. CIT's loan and equity covenants contain confidentiality provisions that strictly govern the disposition of company-sensitive information obtained thereunder. CIT obtains information on third-party, private investment from its portfolio companies under the constraints of this confidentiality language. Release of that private information by CIT, and subsequent availability to a third party under the Freedom of Information Act, could be construed as a breach of the confidentiality provisions, exposing CIT and the Commonwealth of Virginia to legal action by an investee company, its shareholders or other investors. This exclusion is also discussed in § 2.2-3705.6 (3) of Virginia's Freedom of Information Act.

Section 126.1.N.3 – Cyber Security Accelerator (MACH37)

MACH37 is the premier accelerator for cybersecurity entrepreneurs and startups nationally. This unique program goes beyond the traditional model of typical business accelerators by providing innovators with focused mentoring and support from an extensive network of visionaries, practitioners, and successful entrepreneurs in cybersecurity. The Spring and Fall sessions of MACH37's 90- day program are designed to propel graduating companies into the marketplace with validated cyber security concepts and pipelines for accelerated growth.

The program emphasizes the validation of cohort company product concepts and the development of relationships to attract an initial customer base and investment capital. MACH37 employs a tailored approach to address the priority needs of each company, based on their individual strengths and weaknesses.

MACH37 was championed by the Commonwealth's technology community and launched on September 12, 2013 and started its first cohort that same month. Companies selected for the program typically constitute a team of 2 to 4 entrepreneurs and a technical co-founder working to build alpha or prototype cyber security solutions that address the drivers of a demand for innovations in cybersecurity, including:

- New mainstream demand for advanced capabilities;
- Porous network perimeters that are making traditional solutions less relevant;
- Opportunities created from software defined networking; and
- Challenges of a hyper-connected world with an Internet-of-everything.

At the close of the Fall 2018 cohort class, the list of successful graduates included 52 new cyber companies that have been attracted from around the country to grow these critical businesses in Virginia. Mach37 has also attracted applications from companies desiring to launch from the Herndon-based accelerator from 11 countries beyond the United States and Canada.

The FY2018 activity below is provided in response to Section 126.10.N3 of the Appropriation Act. As in the case of the GAP Fund, MACH37 companies are very early stage and the program is designed to leverage private investment and stimulate the growth of the cyber industry in Virginia. Therefore, there is not sufficient operating history to develop meaningful job creation data or to anticipate equity returns.

- I. The number of companies assisted with the cyber accelerator program in:
 - a. FY18: 6 companies
 - b. Inception-to-date: 52

- II. The number of companies operating in Virginia as a result of the program in:
 - a. FY18: 5 of the 6
 - b. Inception-to-date: 30 of the 52
 1. Eight are part of Mach37

- a. Seven are part of Mach37 and have returned to their place of origin and are working to establish a Virginia presence. CIT maintains a high level of visibility into those companies, including frequent interaction with the CEO and team, Board of Director observation rights and receipt of a required quarterly status report.
 - b. One is part of Mach37 and has returned to its place of origin and is past the required time horizon to establish a place of business in Virginia. The company has issued CIT a note for the amount of the penalty.
 - iii. 12 have failed
 - iv. Two have been acquired or paid back CIT
- III. The estimated number of jobs created or preserved in Virginia during FY18:
 - a. FY18: 23 jobs in companies invested in by MACH37 in FY18
 - b. Inception-to-date: 144
- IV. The value of proceeds from the sale of equity in companies that received capital support from the program:
 - a. One MACH37 graduate company has been acquired since inception of this program.
- V. The number of state investments that failed and the state investment associated with failed investments:
 - a. 12 MACH37 graduate companies have failed since inception of this program; \$574,000 state investment
- VI. Number of companies created or expanded and the number of patents filed:
 - a. FY18:
 - i. Companies created or expanded: 6
 - ii. Number of Patents filed: 0
 - b. Inception-to-date:
 - i. Companies created or expanded: 52
 - ii. Number of Patents filed by inception-to-date by FY18 portfolio: 5

CIT GAP Funds - FY18 Investments	
Company	CIT Investment
Advanced Aircraft	\$ 50,000.00
Aquanta (Sunnovations)	\$ 100,000.00
ChurnZero	\$ 100,000.00
Contraline	\$ 125,000.00
Cosha (Hashlit)	\$ 50,000.00
Cyber Academy (Network Security)	\$ 50,000.00
Cynja Tech	\$ 50,000.00
CytoRecovery	\$ 50,000.00
DeepSig	\$ 200,000.00
EdConnective	\$ 50,000.00
FarmRaiser	\$ 100,000.00
Hideez	\$ 50,000.00
Hungry	\$ 100,000.00
INF Robotics	\$ 25,000.00
Loci	\$ 15,000.00
MarginEdge	\$ 100,000.00
Pype	\$ 100,000.00
RunSafe	\$ 150,000.00
Rybbon	\$ 100,000.00
Status Identity	\$ 100,000.00
Student Opportunity Center	\$ 50,000.00
Tear Soutlion	\$ 223,956.00
ThreatLocker	\$ 50,000.00
Ubiquity Link	\$ 50,000.00
UpSideDoor	\$ 200,000.00
	<u>\$ 2,238,956.00</u>

CIT GAP Funds - Inception-to-Date	
Company	CIT Investment
26Labs	\$0.00
418 Intelligence	\$150,000.00
4FrontSecurity	\$50,000.00
4Wave	\$100,000.00
ADI Engineering	\$200,000.00
Adlumin	\$49,000.00
ADR Software	\$100,000.00
Advanced Aircraft	\$50,000.00
Aida Health	\$50,000.00
Airak	\$100,000.00
Airside	\$100,000.00
Altruista Health	\$100,000.00
Antatropo	\$50,000.00
AppTap	\$100,000.00
Aquanta (Sunnovations)	\$500,000.00
ArcheMedX	\$200,000.00
Atomic Corp	\$150,000.00
Atriceps	\$50,000.00
AutomatedDL	\$49,000.00
Axon Ghost	\$150,000.00
BentSystems	\$100,000.00
BiJoTi	\$112,500.00
Biotherapeutis	\$125,000.00
Bloompop	\$200,000.00
Blue Triangle	\$200,000.00
Brazen Careerist	\$207,550.00
BrightContext	\$133,758.34
Broadbridge	\$49,000.00
bThere	\$50,000.00
C3RS	\$200,000.00
Canvas	\$200,000.00
CardKill	\$50,000.00
CargoSense	\$200,000.00
Cavion	\$550,000.00
Cavitronix	\$200,000.00
ChurnZero	\$200,000.00
Cirrus Works	\$200,000.00
ClearEdge 3D	\$127,500.00
Conatix	\$25,000.00
Cont3nt (PhotoHires)	\$50,000.00
Contraline	\$250,000.00
Cosha (Hashlit)	\$50,000.00
Coulomb (Lumin)	\$50,000.00
Cyber 20/20	\$50,000.00
Cyber Academy (Network Security)	\$50,000.00
Cyber Algorithms	\$50,000.00
Cynja Tech	\$50,000.00
Cyph	\$150,000.00
CytoRecovery	\$50,000.00
Dark3	\$100,000.00
DataRPM	\$199,999.59

CIT GAP Funds - Inception-to-Date	
Company	CIT Investment
DeepSig	\$200,000.00
Disrupt6	\$50,000.00
Distil	\$200,000.00
DivvyCloud	\$200,000.00
e-care	\$50,000.00
EdConnective	\$50,000.00
Efficient Photon	\$75,000.00
Ekran	\$49,000.00
Encore	\$100,000.08
Engineered Products of VA	\$200,000.00
Eunomic	\$150,000.00
EVS	\$50,000.00
Extinction	\$15,000.00
EyeQ	\$100,000.00
FarmRaiser	\$100,000.00
Fast Orientation	\$50,000.00
FITNET	\$224,911.67
GCPay	\$100,000.00
Global Cell Solutions	\$50,000.00
GovTribe	\$75,000.00
Gryphn/Uppidy	\$50,000.00
Gyomo	\$50,000.00
Harbinger	\$100,000.00
Heyo, Inc.	\$100,000.00
Hideez	\$50,000.00
Hill Top Security	\$130,000.00
Hungry	\$100,000.00
Hunt	\$150,000.00
Huntress Labs	\$50,000.00
iAspire	\$50,000.00
ID.Me	\$419,025.64
Identia	\$50,000.00
INF Robotics	\$45,000.00
Innovative Biologics	\$200,000.00
Intelligence Framework	\$49,000.00
IntroHive	\$50,000.00
Invincea	\$312,694.56
iTi Health (ZielBio)	\$200,000.00
JeKuDo	\$50,000.00
Kaprica	\$100,000.00
Key Cybersecurity	\$150,000.00
KZO Innovations	\$50,000.00
Latista	\$175,000.00
LendPro	\$100,000.00
Lewis & Clark	\$200,000.00
LiteSheet	\$200,000.00
LiveSafe	\$117,618.35
Loci	\$15,000.00
Locurity	\$50,000.00
Loop88	\$125,000.00

CIT GAP Funds - Inception-to-Date	
Company	CIT Investment
LT Technologies	\$100,000.00
MarginEdge	\$200,000.00
Marz Industries	\$75,000.00
Maternity Neighborhood (Private Practice)	\$200,000.00
MiserWare	\$316,100.00
Mobile System 7	\$100,000.00
MobilePhire	\$100,000.00
Moment Snap	\$100,000.00
MSB Associates	\$50,000.00
Naaya	\$100,000.00
Natural Insight	\$150,000.00
NBE	\$50,000.00
Neoantigenics	\$249,999.33
NeoEyed	\$49,000.00
NexVortex	\$100,000.00
NormShield	\$50,000.00
NS8	\$49,000.00
nVite	\$100,000.00
OhMyGov	\$150,000.00
OnDialog	\$200,000.00
Oppleo Security	\$50,000.00
Ostendio	\$200,000.00
OTraces	\$100,000.00
Ovastasis	\$25,000.00
Parabon NanoLabs	\$80,000.00
Paxfire	\$100,000.00
PCPursuit	\$50,000.00
PerformYard	\$200,001.13
PhosImmune	\$125,000.00
Phtsisis	\$50,000.00
Piedmont BioProducts	\$100,000.00
Pierce Global	\$150,000.00
PocketShip	\$100,000.00
Power FingerPrinting	\$149,995.16
ProvenCyber	\$50,000.00
Public Relay	\$200,000.00
Pype	\$100,000.00
Qrvey	\$100,000.00
RealPage/Senior Living	\$100,000.00
RecargaX	\$100,000.00
Riff Digital	\$5,000.00
Ringio	\$200,000.00
Riogin	\$200,000.00
Rivanna	\$50,000.00
ROI2	\$150,000.00
RollStream	\$200,000.00
Router Solutions	\$100,000.00
RunSafe	\$150,000.00
Rybbon	\$100,000.00
Scriyb	\$100,000.00
Secure Home	\$49,000.00

CIT GAP Funds - Inception-to-Date	
Company	CIT Investment
SecureDB	\$150,000.00
Senseware	\$200,000.00
Servhawk	\$200,000.00
Shevirah	\$150,000.00
Sitscape	\$50,000.00
SL8Z	\$150,000.00
Soft Tissue Regeneration	\$100,000.00
Speek	\$200,000.00
Sphynx	\$150,000.00
SpydrSafe	\$150,000.00
SquareLoop	\$150,000.00
Status Identity	\$100,000.00
Steel Mountain	\$49,000.00
Student Opportunity Center	\$50,000.00
SwipePay	\$100,000.00
Syncurity	\$50,000.00
Tear Soution	\$473,956.00
Tenant Turner	\$100,000.00
Tensor Wrenc	\$50,000.00
Territory	\$200,000.00
ThreatLocker	\$50,000.00
ThreatQuotient	\$500,000.68
ThreatSwitch	\$49,000.00
Triblio	\$150,000.00
Trovolone	\$49,000.00
Type Zero	\$350,000.00
Ubiquity Link	\$50,000.00
Uknow.com	\$175,000.00
Unblinkr	\$50,000.00
UpSideDoor	\$250,000.00
Urgently	\$100,001.74
VanGogh Imaging	\$200,000.00
Veenome	\$200,000.00
Verical	\$239,633.04
Verication	\$100,000.00
VidRunner	\$100,000.00
Virgil	\$50,000.00
Visure	\$100,000.00
VividCortex	\$199,999.00
VoicePass	\$10,000.00
vThreat	\$150,000.00
WealthForge	\$50,000.00
WireTough	\$300,000.00
WorkProducts	\$100,000.00
YaSabe	\$200,000.00
Zoobean	\$149,999.98
ZoomData	\$200,000.00
Zoomph	\$200,000.00
	<u>\$25,174,244.29</u>

ⁱ CIT has placed initial investments in 200 companies. Two of these companies Xydina and Tau Therapeutics merged forming Cavion, resulting in net total of 199 companies. In 2016 CIT exited Invincea. As a result of the exit, CIT received shares in 26 Labs a company spun-out of Invincea at the time of exit. This brought the net total back to 200.

ⁱⁱ Based on company actual revenue in CY2018 Q1 and Q2 and estimated revenue in Q3 and Q4, assumes a 25% profit.

ⁱⁱⁱ Assumes an average salary of \$125K per Virginia employee.

^{iv} Based on company actual revenue in CY2018 Q1 and Q2 and estimated revenue in Q3 and Q4, assumes a 25% profit.

^v Assumes an average salary of \$125K per Virginia employee.

Item 126.10.D.1.e

**Cash balances
by funding source
and
available, committed,
& projected funds**

CENTER FOR INNOVATIVE TECHNOLOGY
FY2018 Cash Balances by Fund

	Operating Funds			Designated Funds														Total
	COV	Other		COV										Federal		Other		
	Discretionary	Grants & Contracts	Other M37 Sponsor	BB Fund	IEMS Fund	Cyber Sec Fund	Comm Fund	MACH37 Fund	CRCF Fund	ISAO Fund	UAS and COE Fund	GAP Fund	SSBCI Fund	DMME Fund	MACH37 LLC	M37 Equity Pool	M37 Carried Interest	
(In Thousands)																		
Cash Balances at 6/30/17	\$ 360	\$ 11	\$ -	\$ 122	\$ 42	\$ 41	\$ 613	\$ 5	\$ (105)	\$ -	\$ 688	\$ 4,669	\$ -	\$ 310	\$ 131	\$ -	\$ (20)	\$ 6,867
Cash Receipts FY18	3,076	1,380	432	500	50	-	320	-	3,142	500	1,000	4,710	-	94	-	-	-	15,204
Cash Disbursements FY18	(3,116)	(1,203)	(432)	(516)	(37)	(41)	(270)	(5)	(3,102)	(450)	(571)	(3,707)	-	(122)	(131)	(5)	9	(13,699)
Cash Balances at 6/30/18	\$ 320	\$ 188	\$ -	\$ 106	\$ 55	\$ -	\$ 663	\$ -	\$ (65)	\$ 50	\$ 1,117	\$ 5,672	\$ -	\$ 282	\$ -	\$ (5)	\$ (11)	\$ 8,372

Legend:

- BB Fund = Broadband Program Fund
- IEMS Fund = Innovation and Entrepreneurship Measurement System Fund
- Cyber Sec Fund = Cyber Security Fund
- Comm Fund = Cyber Security Commission Fund
- MACH37 Fund = MACH37 Cyber Accelerator Fund
- CRCF = Commonwealth Research Commercialization Fund
- ISAO Fund = Information Sharing and Analysis Organization
- UAS and COE Fund = Unmanned Systems and Unmanned Center of Excellence Fund
- GAP Fund = Growth Accelerator Program Fund
- SSBCI Fund = State Small Business Credit Initiative Fund
- DMME Fund = Department of Mines Minerals & Energy Program Fund

Designated Funds are amounts which are to be spent on a specific purpose stated in the Appropriation Act, or, in the case of the DMME Fund, advances and investment return proceeds received on a federal grant.

**INNOVATION AND ENTREPRENEURSHIP INVESTMENT AUTHORITY
FY2018 Cash Balances by Fund**

	Operating Fund	Designated to Building	Investment in Capital Assets	IEIA Total
		(In Thousands)		
Cash Balances at 6/30/17	\$ 357	\$ 2,793	\$ -	\$ 3,150
Cash Receipts FY18	12,872	74	-	12,946
Cash Disbursements FY18	(12,616)	(11)	-	(12,627)
Cash Balances at 6/30/18	<u>\$ 613</u>	<u>\$ 2,856</u>	<u>\$ -</u>	<u>\$ 3,469</u>