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13 Attorneys for Plaintiff ROADRUNNER
RECYLING, INC.

14 **UNITED STATES DISTRICT COURT**
15 **NORTHERN DISTRICT OF CALIFORNIA**

16 ROADRUNNER RECYCLING, INC.,
17
Plaintiff,
18
v.
19 RECYCLE TRACK SYSTEMS, INC., and
20 RECYCLESMAART SOLUTIONS, INC.,
21
Defendants.

Case No. 3:23-cv-04804-WHA

**SECOND AMENDED COMPLAINT FOR
(1) TRADE SECRET MISAPPROPRIATION
UNDER CALIFORNIA UNIFORM TRADE
SECRETS ACT; (2) TRADE SECRET
MISAPPROPRIATION UNDER DEFEND
TRADE SECRETS ACT; AND (3) BREACH
OF CONTRACT**

22
23 Complaint Filed: August 4, 2023
Trial Date: Not Yet Set
24

1 Plaintiff RoadRunner Recycling, Inc. (“RoadRunner”) alleges as follows:

2 **INTRODUCTION**

3 1. This case arises from Defendants Recycle Track Systems, Inc.’s (“RTS”) and
4 RecycleSmart Solutions, Inc.’s (“RecycleSmart”) (collectively “Defendants”) theft of
5 RoadRunner’s waste and recycling metering technology and breach of contract.

6 2. RoadRunner’s predecessor-in-interest, Compology, Inc. (“Compology”) developed
7 highly valuable and proprietary trade secrets in its waste and recycling metering technology over
8 the course of many years, expending millions of dollars and tens of thousands of person-hours in
9 the process.

10 3. RTS’s wholly-owned subsidiary and predecessor-in-interest, RecycleSmart,
11 contracted with RoadRunner’s predecessor-in-interest, Compology. Pursuant to that contract,
12 Compology provided confidential and proprietary information to RecycleSmart, including its trade
13 secrets as embodied in its confidential and proprietary information, with expressly narrow
14 limitations on disclosure and use of Compology’s confidential and proprietary information.
15 Specifically, under these non-use and non-disclosure provisions, Compology delivered its smart
16 cameras and installed them inside of RecycleSmart’s waste containers. It also disclosed details and
17 features of its confidential and proprietary machine learning models and related algorithms and
18 processes through delivery of Compology’s web application and through customer service
19 communications. RecycleSmart further obtained Compology’s training data through access to
20 millions of labeled and tagged images taken by Compology’s smart cameras of RecycleSmart’s
21 waste containers. RoadRunner assumed all rights under the contract and all intellectual property,
22 including trade secrets, when it acquired Compology in 2022.

23 4. RecycleSmart (and RTS, when it acquired RecycleSmart) misappropriated
24 Compology’s trade secrets it obtained under these contractual limitations by wrongfully using the
25 trade secret information to develop Defendants’ competing product, Pello, to the detriment of
26 Compology and for RecycleSmart’s benefit. Specifically, RecycleSmart obtained access to
27 Compology’s smart camera apparatus and, on information and belief, wrongfully disassembled
28 and used the camera apparatus to develop the Pello product in violation of its agreement with

1 Compology, thereby misappropriating Compology’s smart camera apparatus and optical assembly
2 and design.

3 5. In addition, RecycleSmart obtained access to details and features of Compology’s
4 machine-learning models, image preprocessing techniques, and related algorithms and processes
5 through delivery of Compology’s web application and through customer service communications.
6 On information and belief, RecycleSmart wrongfully used this information to misappropriate
7 Compology’s trade secrets in its imaging preprocessing techniques and algorithms and processes.

8 6. RecycleSmart also obtained Compology’s training data through access to millions
9 of labeled and tagged images of its waste containers taken by Compology’s smart cameras of
10 RecycleSmart’s waste containers. On information and belief, RecycleSmart used those images to
11 derive its own training data set and develop machine-learning models in violation of contractual
12 use restrictions, thereby misappropriating Compology’s training data. RecycleSmart also, on
13 information and belief, combined these images with other images from its Pello cameras that it
14 placed in substantially the same areas as Compology’s smart cameras to validate the training data,
15 also in violation of non-use agreement with Compology. Defendants continue to misappropriate
16 RoadRunner’s trade secrets and breach the contractual obligations under the contract.

17 7. Without intervention, Defendants will continue to misappropriate RoadRunner’s
18 trade secrets and continue to breach contractual covenants to RoadRunner. RoadRunner seeks
19 actual and exemplary/punitive damages for Defendants’ wrongful acts, as well as pre-judgment
20 and post-judgment interest. RoadRunner also seeks an order requiring Defendants to return
21 RoadRunner’s confidential and propriety information and enjoining RTS from further wrongful
22 acts.

23 **PARTIES**

24 8. RoadRunner is a Delaware corporation, with a principal place of business in
25 Pittsburgh, Pennsylvania.

26 9. RTS is a New York corporation, with a principal place of business in New York,
27 New York. In March 2023, RTS announced its acquisition of RecycleSmart, a Richmond, British
28 Columbia-based company.

1 are maintained in this District.

2 16. Venue is proper in this Court, among other reasons, because Defendants have
3 consented to jurisdiction in the state and federal courts in the Northern District of California, the
4 contract at issue herein was entered into and/or performed in this District, and the action concerns
5 injuries that occurred in this District.

6 **BACKGROUND**

7 **Compology Develops Confidential and Proprietary Trade Secrets**

8 17. Over the course of many years, Compology developed confidential and proprietary
9 waste and recycling metering technology powered by smart cameras and artificial intelligence
10 (“AI”) in the form of machine learning and related algorithms, as more fully described in
11 Plaintiff’s Identification of Trade Secrets.¹ Compology expended millions of dollars and tens of
12 thousands of person-hours to develop its confidential and proprietary technology. RoadRunner’s
13 trade secrets as they relate to the instant action are (1) the overall waste and recycling metering
14 system, (2) smart camera apparatus, (3) optical assembly and design, (4) image preprocessing in
15 camera apparatus for use by machine-learning training and operation, (5) training data stored in a
16 database and comprising labeled and tagged images and associated metadata, and (6) algorithms
17 and processes to generate data, analysis, and recommendations to customers, including fullness,
18 emptiness, contamination, schedules, data ingestion efficiencies, and location analysis of waste
19 containers.

20 **Compology’s Overall Waste and Recycling Metering System**

21 18. RoadRunner’s trade secrets include the overall know-how and design of its waste
22 and recycling metering system, which includes the physical hardware components such as the
23 smart camera apparatus, the optical assembly and design, the image preprocessing in the camera
24 apparatus, the training data stored in the database, and the algorithms and processes, as described
25

26 ¹ RoadRunner has filed, under seal, Plaintiff’s Identification of Trade Secrets pursuant to the
27 Court’s December 26, 2023 Order Granting Motion to Dismiss RoadRunner’s First Amended
28 Complaint (Dkt. No. 43) and California Code of Civil Procedure § 2019.210. RoadRunner filed
the aforementioned document under seal to preserve the secrecy of its trade secrets and has
requested the Court to maintain its secrecy by sealing the document and order that Defendants’
counsel, nor any other third party, must not disclose them, including to Defendants themselves.

1 more fully herein, and as described in Plaintiff’s Identification of Trade Secrets. Although certain
2 components of RoadRunner’s smart camera design employ commercially available parts, the
3 combination of those parts, with non-commercially available parts, and the unique configuration
4 of the parts in a smart camera assembly, integrates significant know-how and techniques learned
5 during its development and testing process. Integrating the aforementioned elements together into
6 a comprehensive system for managing waste and recycling metering took a decade of innovation,
7 troubleshooting, and iterative experimentation, as well as substantial investments from
8 Compology.

9 19. The combination of this hardware, image preprocessing, training data, and
10 algorithms and processes as implemented in a waste metering system is itself a trade secret. In
11 addition, as described herein, these features are also separately trade secrets.

12 20. None of this technology is publicly available and is kept strictly confidential and
13 secret to all third parties, except by disclosure under strict and narrow non-disclosure and non-use
14 provisions, as described more fully herein.

15 Compology’s Smart Camera Apparatus

16 21. Developing a battery operated, wireless camera system that must survive in the
17 harsh environment of industrial and commercial trash containers for 5+ years is non-trivial. Over
18 the last 10 years, Compology designed, tested, certified, and ultimately entered mass production
19 on six different versions of waste metering camera technology. Each version refined the
20 performance in critical areas unique to this challenging product field. These areas include
21 environmental challenges, optical challenges, radio frequency (“RF”) performance, and battery
22 life. Compology’s innovation resulted in highly customized designs, requiring the fabrication of
23 custom components and assemblies, all of which are the sum of years of trial and error, testing,
24 and refinement. Compology’s experimentation is described in detail in Plaintiff’s Identification of
25 Trade Secrets.

26 22. Compology employed various confidential and proprietary techniques to achieve an
27 accurate, low-power, smart camera apparatus for use in waste containers. Selection of the camera
28 elements and accompanying electronic components were all central to sufficiently capturing

1 images within varying waste containers, in varying environments, with varying light exposure,
2 while balancing those needs with preservation of battery life.

3 23. Compology’s smart camera apparatus trade secret consists of both commercially
4 available and proprietary, non-commercially available electronic components. Compology’s smart
5 camera apparatus includes a smart camera, including a CMOS Camera Module (“CCM”) with
6 wide field-of-view camera lens, battery pack, high-durability injection-molded parts, including a
7 “double shot” rear housing with TPE overmolding, front housing with recessed sensors for debris
8 shielding, and camera and flash PCBA cutouts and mounting, and optical windows with high
9 scratch-resistance, and specialized coatings; printed circuit board assemblies (“PCBAs”)
10 containing microcontrollers, external RAM integrated circuit (“IC”), wireless communication
11 systems, accelerometer, GPS, environmental sensors, and a camera flash LED. Compology’s
12 smart camera assembly trade secret and its components and features are more fully detailed in
13 Plaintiff’s Identification of Trade Secrets.

14 24. Compology’s optical assembly and design, as part of the smart camera apparatus, is
15 its own trade secret, as described herein, but also is part of a broader trade secret encompassing the
16 aforementioned elements.

17 25. Compology’s wireless communication module and wireless networking design and
18 techniques are also part of Compology’s smart camera apparatus. Compology smart camera
19 assemblies are designed to function when the wireless communication system is able to
20 communicate with the server. This is a particular challenge for a waste metering system because
21 the vast majority of commercial and industrial waste containers are composed of steel boxes,
22 which closely resemble Faraday Cages—a device intended to isolate and inhibit RF signal
23 transmission. Compology selected a particular low-power wireless communication module using a
24 carefully designed antenna to overcome this challenge, among others as described further in
25 Plaintiff’s Identification of Trade Secrets. Compology also designed techniques to accommodate
26 loss of cellular communication. Compology’s use of this technology was particularly suited to low
27 bandwidth / low power applications to lengthen the battery life of the smart camera apparatus.
28 Compology’s smart camera apparatus includes a sensor suite for location identification, important

1 for use in tracking waste containers and customer assets. The location identification sensors are
2 also employed to provide accurate service events and recommendations to the customer.

3 26. Compology's smart camera apparatus also includes a specific and unique battery
4 technology chosen in combination with the other elements of the smart camera apparatus to
5 lengthen the time in the waste container to five years or more without replacement. Battery life is
6 paramount to the success of Compology's hardware products, impacting overall smart camera
7 assembly lifespan and hence cost and profitability. Among the factors Compology needed to
8 balance are low-power consumption, battery capacity, size, weight, and temperature performance.
9 An exotic battery chemistry was selected for the Compology's cameras to meet these strict
10 requirements.

11 27. Each of these elements is described in further detail in Plaintiff's Identification of
12 Trade Secrets.

13 28. Compology's smart camera assembly is not publicly available. Neither Compology
14 nor RoadRunner disclosed its smart camera apparatus trade secret through publicly available
15 submissions to the Federal Communications Commission ("FCC") or through online marketing
16 materials. A third party could not inspect and utilize Compology's confidential and proprietary
17 smart camera apparatus without improperly obtaining and disassembling it.

18 **Compology's Optical Assembly and Design**

19 29. As part of its smart camera apparatus, Compology iteratively developed its optics
20 assembly and design. Compology selected the components of its optical assembly and design for
21 use with harsh weather conditions, durability to withstand physical damage, and to facilitate debris
22 shedding. The camera optics, camera flash, sensor, and housing, including physical cutouts and
23 mounting, were iteratively developed over the course of many years to optimize the captured
24 images for use with Compology's machine learning algorithms to determine fullness levels,
25 emptying events, and contamination events and types.

26 30. Compology selected the camera lens and optical assembly materials to overcome
27 extreme environmental conditions in a variety of types of waste containers. It also selected and
28 iteratively determined durable materials and techniques applied to the housing materials to prevent

1 physical damage, decrease vibrations, and seal the optical design elements to prevent ingress and
2 light penetration for sensitive optical and electronic components. Compology further selected and
3 designed the arrangement of the camera lens and camera flash to ensure sufficient accurate image
4 capture of the interior of a variety of waste containers by evenly delivering light to the widest area
5 inside the waste containers. Compology also experimented with different lighting characteristics,
6 colors, and intensities to balance sufficient image capture against longevity of battery life in the
7 low-power smart camera apparatus to arrive at its optical assembly and design.

8 31. Compology's optical assembly and design trade secret includes the camera lens,
9 camera flash, sensor, and housing, including the housing's physical cutouts and mounting.
10 Compology's optical assembly and design is not publicly available. Neither Compology nor
11 RoadRunner disclosed its confidential and proprietary technology through publicly available
12 submissions to the FCC or through online marketing materials. A third party could not inspect and
13 utilize Compology's confidential and proprietary optical assembly and design without improperly
14 obtaining and disassembling it.

15 **Compology's Image Preprocessing Techniques**

16 32. Compology experimented with different image preprocessing techniques before
17 employing an image enhancement design. These techniques overcame lighting issues within waste
18 containers and prepared the images to be suitable for ingestion into Compology's training data for
19 training its machine-learning models and for its models to accurately determine fullness level,
20 emptying events, and contamination of the waste containers. Compology's techniques are
21 implemented in the smart camera apparatus before transmission of the images to Compology's
22 database. The specific trade secret techniques Compology employed are described in Plaintiff's
23 Identification of Trade Secrets.

24 33. Compology kept its image processing techniques secret from third parties except by
25 disclosure under strict and narrow non-disclosure and non-use provisions, as described more fully
26 herein.

27 **Compology's Training Data**

28 34. As described herein, Compology employs machine learning to analyze images of

1 waste containers. To manually review and identify metrics of waste containers using installes only
2 is cumbersome and inefficient. Thus, Compology developed a machine learning system to
3 automatically analyze and label and tag images for use by Compology's algorithms and processes
4 that it uses to provide data, analysis, and recommendations to its customers, among other things.
5 To automate Compology's process of analyzing images of waste containers, Compology used
6 training data to train its machine learning models such that, when sufficiently trained, the machine
7 learning models could label and tag images of waste containers without significant human
8 involvement.

9 35. Compology's training data is a trade secret and is central to Compology's training
10 of its machine learning models and operation of its services. Indeed, in machine learning, the size
11 and quality of the training data are the most determinative factors for creating effective machine
12 learning systems. At or around 2015, Compology started the process of training machine learning
13 models for fullness levels of waste containers. Over the course of years, Compology manually
14 labeled and tagged images from Compology's smart camera assemblies and built up a database of
15 millions of images and related labels and tags. Specifically, the images were taken with
16 Compology's smart cameras, delivered wirelessly to Compology's server, and stored on a
17 database. Compology then manually labeled and tagged these images with particular information
18 detailing fullness levels, emptying events, contamination types, and other information used by
19 Compology's algorithms and processes. This process took over seven years. The metadata
20 included opinion data (e.g., fullness level data) as labels and tags in metadata associated with
21 specified images.

22 36. The training data includes the processed images themselves as well as manually
23 created labels of container fullness, content, empty events, among others. After a critical mass of
24 images were stored in the database as a training set, Compology was able to develop working
25 machine learning models for fullness levels of waste containers, content of the containers, and the
26 empty/service state of containers over time. The machine learning models developed through the
27 training data are implemented in an AI system in order to automate the ingestion and classification
28 of images and provide automatic labels and tags associated with the particular images. It is also

1 possible to train successful machine learning models from the output of other models.

2 37. Compology's training data, its use in training its machine learning models, and its
3 use in Compology's algorithms and processes are detailed in Plaintiff's Identification of Trade
4 Secrets.

5 38. Compology kept its training data secret from third parties except by disclosure and
6 use under strict and narrow non-disclosure and non-use provisions, as described more fully herein.

7 **Compology's Algorithms and Processes**

8 39. Compology developed algorithms and processes configured to generate data,
9 analysis, and recommendations to customers, including fullness, emptiness, contamination,
10 scheduling, data ingestion efficiencies, and location analysis of waste containers. Compology's
11 algorithms and processes are closely held trade secrets and are embodied in source and object
12 code. As described herein, these algorithms and processes were described to RecycleSmart or
13 made available to them in a series of customer service communications and through access to
14 Compology's web application.

15 40. As described herein, Compology uses its machine learning models, as implemented
16 in its AI system, to analyze images and label and tag those images with fullness, emptiness, and
17 contamination labels and tags. Rather than having to rely on humans manually labeling and
18 tagging images, Compology's machine learning models automate the processes for ease of use
19 among hundreds and thousands of waste containers of its customers. Compology's algorithms and
20 processes utilize the labeled and tagged images to perform services for its customers, including
21 generation of data for its customers to monitor for its own business uses and recommendations of
22 scheduling changes for use with collection schedules by waste generators and waste haulers (e.g.,
23 rightsizing), analysis, and recommendations, among other things. Compology's algorithms and
24 processes are unique and custom-fit for use in the waste and recycling metering space.
25 Compology's algorithms and processes are detailed in Plaintiff's Identification of Trade Secrets.

26 41. Compology's algorithms and processes independently, and as an overall software
27 system, are each trade secrets.

28 42. Compology kept its algorithms and processes secret from third parties except by

1 disclosure and use under strict and narrow non-disclosure and non-use provisions, as described
2 more fully herein.

3 **Compology and RecycleSmart Enter into the Terms**

4 43. Compology and RecycleSmart entered into a “pilot” contract for a 10-camera
5 system on June 15, 2017. Compology and RecycleSmart’s business relationship expanded from
6 2017-2022, to approximately \$450,000 per year in revenue in 2022.

7 44. On November 2, 2020, Compology and RecycleSmart entered into a renewal order
8 form that was subject to the “Compology Terms and Conditions” (“Terms”) in which Compology
9 was to provide, among other things, Compology’s System and Subscription Services to
10 RecycleSmart. The Terms defined System to mean “the Devices, the Software and/or the
11 combination thereof on an integrated basis to enable the collection, processing and/or delivery of
12 Device Data and Derivative Data,” and Subscription Services to mean “the System hosted by
13 Compology and made available to Customer, along with the provision by Compology of services
14 relating thereto, to include but not be limited to Device delivery, installation, maintenance and
15 monitoring, reporting, Software fixes and updates, hosting and service analysis and
16 benchmarking.”

17 45. Under Section 2.1.5 of the Terms, RecycleSmart agreed that it “shall not use the
18 System or any component thereof for any purposes beyond the scope of the license granted in
19 these Terms.” Pursuant to that same section, RecycleSmart agreed that it “shall not at any time,
20 and shall not permit others to:”

21 (i) copy, adapt, modify, or create derivative works of the System, in whole or in part
22 except as otherwise expressly set forth herein; . . . (iii) reverse engineer, disassemble,
23 decompile, decode, adapt, make error corrections to or otherwise attempt to derive or
24 gain access to the source code or any other component of the System, in whole or in
25 part; . . . (v) use the System or any component thereof in any manner or for any
26 purpose that infringes, misappropriates, or otherwise violates any intellectual
27 property right or other right of any person, or that violates any applicable law; or (vi)
28 combine or integrate the Device or Software with any software, technology, services,
or materials not authorized by Compology. Additionally, Customer covenants and
agrees not to, directly or indirectly, manipulate or process Device Data, through
interaction with databases, algorithms, external data, calculations and/or other
processes, methods or tools, for the purposes of deriving Derivative Data.

46. The Terms define Confidential Information as

1 [A] Party’s non-public business, financial, technical, legal and personnel information,
 2 and includes, for example, product designs and data, source code, trade secrets,
 3 pricing, customer and supplier lists, network structure and addresses, designs,
 4 technical specifications, business plans, these Terms and any other non-public data
 5 whether written, verbal or visual, connected to or related to the business and affairs
 6 of a Party or any of its affiliates.

7 47. The Terms prohibited RecycleSmart from disclosure of the Confidential
 8 Information in Section 10.2, as follows: “[RecycleSmart will not] publish, disclose, copy,
 9 disseminate or use the Confidential Information of the other Party in its business or for any other
 10 purpose except as expressly permitted in these Terms.”

11 48. Thus, the Terms prohibited Defendants from disclosing or using the System or
 12 Confidential Information to reverse engineer, derive or gain access to Compology’s source code or
 13 any other component of the System. The Terms also prohibited Defendants from directly or
 14 indirectly manipulating or processing Device Data to derive Derivative Data.

15 **Compology Delivers its System and Services to RecycleSmart Under the Terms**

16 49. As early as 2017, Compology delivered its system and services to RecycleSmart,
 17 including Compology’s smart camera assemblies and software. Specifically, Compology installed
 18 smart camera assemblies in RecycleSmart’s waste containers and provided RecycleSmart with its
 19 web application, firmware updates, and access to technical customer service support by phone,
 20 video, and text.

21 50. In October 2021, RecycleSmart negotiated a 1-year contract renewal (rather than
 22 the previous 3-year contract).

23 51. In January 2022, Compology discovered that Pello cameras were being installed in
 24 hundreds of the same containers as those with Compology cameras. At or around the same time
 25 period, Compology discovered that RecycleSmart was downloading vast quantities of labeled and
 26 tagged images. On October 31, 2022, RecycleSmart let its 1-year contract lapse with RoadRunner.

27 **RecycleSmart Gains Access to RoadRunner’s Trade Secrets**

28 52. During its business relationship with Compology, RecycleSmart gained access to
 Compology’s trade secrets. Initially, Compology installed Compology’s smart cameras in
 RecycleSmart’s waste containers. However, later during the parties’ business relationship,

1 RecycleSmart sought to install Compology's smart cameras itself, and Compology agreed.
2 RecycleSmart therefore had access to Compology's smart camera apparatus, optical assembly and
3 design, and image preprocessing techniques because RecycleSmart was given physical custody of
4 the smart camera apparatus with firmware already installed and functioning. RecycleSmart further
5 gained access to these trade secrets through customer service communications in which
6 RecycleSmart sought and received details concerning Compology's smart camera system function
7 and design. RecycleSmart had access to Compology's image preprocessing techniques that were
8 disclosed in the text of Compology's compiled firmware code, as well as by Compology firmware
9 updates of Compology's smart cameras.

10 53. RecycleSmart also had access to Compology's training data. As described herein,
11 Compology compiled training data to train its machine learning models which it then implemented
12 into its AI system to automatically ingest image data and output machine-labeled and tagged
13 images. Compology provided RecycleSmart with the ability to download millions of images taken
14 by Compology's smart cameras, provided to Compology's servers, and labeled and tagged by
15 Compology's AI system. These millions of machine- and human-labeled and tagged images
16 comprised a training data set by which a third party could derive Compology's machine learning
17 models.

18 54. RecycleSmart also had access to Compology's algorithms and processes.
19 Compology provided RecycleSmart with its web application and access to customer service
20 technicians and engineers, soliciting and receiving technical details concerning Compology's data
21 and processes. This information was sufficient for RecycleSmart to learn Compology's algorithms
22 and processes.

23 **RecycleSmart Misappropriates RoadRunner's Trade Secrets and Breaches the Terms**

24 55. None of Compology's trade secret information could be disclosed or used except as
25 expressly provided in the Terms. Critically, as shown herein, the Terms restrict RecycleSmart
26 from disassembly, reverse engineering, derivation, or gaining access to Compology's smart
27 camera assemblies, Compology's software, or any other component of Compology's system. This
28 is precisely what RecycleSmart proceeded to do.

1 56. RoadRunner became suspicious that RecycleSmart had wrongfully used and
2 disclosed RoadRunner's trade secrets in violation of the Terms and had therefore misappropriated
3 RoadRunner's trade secrets. RoadRunner investigated its suspicions, in part, by reviewing a
4 March 9, 2022 Federal Communications Commission ("FCC") report filed by RecycleSmart.
5 RoadRunner's suspicions were confirmed.

6 57. RoadRunner's investigation confirmed that the Pello system was extremely similar
7 to RoadRunner's waste and recycling metering technology. For example, RF test reports
8 submitted with its FCC filing confirmed that the Pello system operated identically to
9 RoadRunner's system for obtaining images of waste containers, using substantially the same
10 communication bands as those used by RoadRunner's system.

11 58. In addition, the Pello camera utilizes virtually the same physical, electronic, and
12 optoelectronic components as Compology's smart camera assembly, including substantially the
13 same printed circuit board assembly ("PCBA"), microcontroller, external RAM IC, wide field-of-
14 view camera lens, camera flash PCBA, camera injection molded parts, "double-shot" rear housing
15 with TPE overmolding, battery pack, shape, color, and materials of the camera housing, recessed
16 sensors for debris shedding, and identical camera flash PCBA cutouts and mounting. The Pello
17 system also utilized a three-point mounting system that is virtually identical to RoadRunner's
18 placement of its smart cameras in waste containers.

19 59. Based on the foregoing, and on information and belief, RecycleSmart gained access
20 to and wrongfully disassembled and reverse-engineered Compology's smart camera assemblies to
21 develop RecycleSmart's Pello camera system in violation of the Terms, thereby misappropriating
22 Compology's smart camera assembly, optical assembly and design, and image preprocessing trade
23 secrets.

24 60. RoadRunner also became suspicious that RecycleSmart had trained machine
25 learning models by wrongfully using the millions of machine labeled and tagged images generated
26 by Compology's machine learning models to derive its own training data set and related machine
27 learning models. As described herein, with a sufficient amount of labeled and tagged images,
28 RecycleSmart could recreate Compology's training data and train its own machine learning

1 models. RoadRunner's investigation revealed that the Pello camera system is advertised as using
2 an AI-powered system to monitor bin capacity, fullness, contamination, reduce unnecessary trips
3 and emissions, and recommend efficient scheduling, the very same services that Compology
4 offered and delivered to RecycleSmart during their business relationship. For example,
5 RecycleSmart discloses on its website that it offers rightsizing scheduling optimization, one of the
6 very same algorithms and processes that Compology developed and disclosed to RecycleSmart
7 through its web application and customer service communications. On information and belief,
8 RecycleSmart downloaded a sufficiently large corpus of training data to derive Compology's
9 training data, and proceeded to train its machine learning models in violation of the Terms,
10 thereby misappropriating Compology's training data trade secret.

11 61. Compology also learned that RecycleSmart had installed Pello cameras next to and
12 in hundreds of the same waste containers as Compology's smart cameras. On information and
13 belief, RecycleSmart further trained its machine learning models by using Compology's training
14 data derived from Compology's cameras in RecycleSmart's waste containers along with additional
15 images obtained from RecycleSmart's Pello cameras in the same waste containers. This enabled
16 RecycleSmart to get a head start on developing its overall system, evidenced by RecycleSmart
17 going to market on its Pello camera system in only months, rather than many years, as in
18 Compology's case. Stated otherwise, RecycleSmart gained an advantage by being able to compare
19 the quality of images produced by Compology's smart cameras against its own Pello cameras,
20 which enabled them to derive Compology's machine learning models in months, rather than years.

21 62. RecycleSmart also, on information and belief, misappropriated Compology's trade
22 secrets embodied in its algorithms and processes by recreating Compology's machine learning
23 models (designed specifically to implement those algorithms and processes) and by using
24 information about those algorithms and processes learned from Compology's web application and
25 customer service communications. To bypass the time and effort necessary to develop the
26 technology itself, on information and belief, RecycleSmart wrongly used Compology's training
27 data, accessed through millions of labeled and tagged images taken by Compology's smart
28 cameras, to train its own machine learning models to compete against Compology using its Pello

1 cameras, and with additional information learned through Compology's web application and
2 customer service technical and engineering team, also wrongfully derived Compology's
3 algorithms and processes. Compology's services included data, analysis, and recommendations to
4 Defendants through access to RoadRunner's web application from which Defendants could learn
5 RoadRunner's algorithms and processes.

6 63. In sum, RecycleSmart's camera system is virtually the same as Compology's smart
7 camera system. Its AI-powered algorithms and processes are virtually the same, and therefore, its
8 machine learning models are virtually the same. On information and belief, RecycleSmart's
9 training data is identical or virtually identical to Compology's training data because it was
10 generated and output by Compology's machine learning models as implemented in its AI system.
11 Compology required *years* to develop, train, and implement its overall system and design. The
12 combination of these misappropriated trade secrets in a competitor's system, after having received
13 access to them and developing a competing system in record time, confirms that RecycleSmart
14 obtained and unlawfully used Compology's trade secrets to derive the Pello waste metering
15 system.

16 64. On information and belief, RecycleSmart also disclosed RoadRunner's trade
17 secrets to third parties to develop its competing Pello system. This is apparent, among other
18 reasons, because RecycleSmart's FCC filing indicates different sources of custom and
19 commercially available parts used in RecycleSmart's Pello system, and on information and belief,
20 had shared Compology's smart camera apparatus with a third party manufacturer or developer of
21 the Pello camera system. These additional acts constitute trade secret misappropriation by
22 wrongful disclosure, as well as breach of the Terms.

23 **Defendants are Bound by the Terms and Liable for Each Other's Wrongful Acts**

24 65. In October 2022, RoadRunner acquired Compology and assumed all of the rights
25 under the Terms. In March 2023, RTS announced its acquisition of RecycleSmart, including
26 RecycleSmart's Pello cameras and system.

27 66. On information and belief, when RTS acquired RecycleSmart, RTS assumed
28 RecycleSmart's obligations and liabilities, including RecycleSmart's obligations and liability

1 under the Terms, including the aforementioned prohibitions against disclosure and improper use of
 2 RoadRunner’s Confidential Information. In addition, there exists a unity of interest among RTS
 3 and RecycleSmart such that these companies are in practice a “single enterprise.” Among other
 4 things, RTS exercises and directs control over RecycleSmart. Indeed, these companies reference
 5 on their webpages, and imply ownership of, the Pello system that is at issue in this lawsuit. Thus,
 6 it would be unjust for any of the companies to be shielded from liability for the theft of
 7 RoadRunner’s technology.

8 67. Under the Terms and California law, privities-in-interest are bound to the Terms,
 9 and liable for the wrongful acts of their predecessors-in-interest, even after termination or
 10 expiration of the Terms, pursuant to Section 9.5: “The provisions of these Terms relating to (i)
 11 restrictions on license or use of the System; . . . (vi) ownership of intellectual property, (vii)
 12 confidentiality, . . . along with any other provisions that by their nature are intended to survive,
 13 will survive the termination or expiration of these Terms.”

14 68. Each Defendant therefore stepped into the shoes of the other Defendants and are
 15 bound by the Terms and liable for each other’s wrongful acts, in addition to Defendants’
 16 continuing wrongful acts as described herein.

FIRST CAUSE OF ACTION

[Trade Secret Misappropriation Under California Uniform Trade Secrets Act, Cal. Civ. Code § 3426, *et seq.*]

20 69. RoadRunner hereby repeats, realleges and incorporates by reference the allegations
 21 which are contained in paragraphs 1 through 38.

22 70. This is a cause of action for misappropriation of trade secrets under the California
 23 Uniform Trade Secrets Act, Cal. Civ. Code § 3426, *et seq.*, based on the wrongful
 24 misappropriation, use, and/or disclosure of RoadRunner’s trade secrets as embodied in
 25 confidential information, including but not limited to Confidential Information as defined in the
 26 Terms, that RoadRunner provided under strict use and disclosure restrictions.

27 71. RoadRunner’s trade secrets at issue in this action are (1) the overall waste and
 28 recycling metering system, (2) smart camera apparatus, (3) optical assembly and design, (4) image

1 preprocessing in camera apparatus for use by machine-learning training and operation, (5) training
2 data stored in a database and comprising labeled and tagged images and associated metadata, and
3 (6) algorithms and processes to generate data, analysis, and recommendations to customers,
4 including fullness, emptiness, contamination, schedules, data ingestion efficiencies, and location
5 analysis of waste containers. These trade secrets are more fully detailed herein and in Plaintiff's
6 Identification of Trade Secrets.

7 72. RoadRunner's confidential information embodied in these six trade secrets operate
8 as trade secrets because they derive independent economic value from not being generally known
9 to the public or to others who can obtain economic value from their disclosure or use.

10 73. RecycleSmart, RTS's predecessor-in-interest, gained access to RoadRunner's trade
11 secrets in the course of a contractual relationship with Compology, RoadRunner's predecessor-in-
12 interest, and was under an obligation to maintain the secrecy of RoadRunner's trade secret
13 information obtained during its contractual relationship with RoadRunner and thereafter.
14 RecycleSmart was also under an obligation not to use RoadRunner's trade secrets for any
15 purposes beyond the limitations of use according to Section 2.1.5 of the Terms, including but not
16 limited to copying, adapting, modifying, or creating derivative works of RoadRunner's waste
17 metering system, reverse engineering or attempting to derive the source code and other
18 components of the waste metering system, using the waste metering system in a manner that
19 infringes, misappropriates, and violates intellectual property rights in RoadRunner's trade secrets,
20 or combining and integrating RoadRunner's trade secrets with software, technology, services,
21 and/or materials not authorized by RoadRunner.

22 74. As detailed herein, on information and belief, RecycleSmart gained access to
23 RoadRunner's trade secrets by wrongfully disassembling and reverse engineering Compology's
24 smart camera assembly, through which it learned about Compology's smart camera apparatus,
25 optical assembly and design, and image preprocessing techniques. On information and belief,
26 RecycleSmart learned further details concerning Compology's image preprocessing techniques by
27 examining Compology's firmware, by examining firmware updates, and through customer service
28 communications. RecycleSmart, on information and belief, derived Compology's machine

1 learning models and algorithms and processes through access to Compology’s application and
2 through numerous customer service communications, and by wrongfully obtaining Compology’s
3 training data through access to millions of labeled and tagged images taken by Compology’s
4 cameras (and Pello cameras) for use in developing the Pello camera system.

5 75. In addition, in violation of RecycleSmart’s obligations to maintain the secrecy of
6 RoadRunner’s trade secrets, RecycleSmart disclosed RoadRunner’s trade secrets to members of
7 the general public to develop the competing Pello product.

8 76. Defendants have used and disclosed and continue to use and disclose
9 RoadRunner’s trade secrets without RoadRunner’s consent or permission, in an attempt to benefit
10 Defendants, and beyond the limitations of use according to Section 2.1.5 of the Terms.

11 77. Defendants have used or disclosed RoadRunner’s trade secrets maliciously and in
12 willful and conscious disregard of the rights of RoadRunner.

13 78. Defendants are each liable for the wrongful acts of the other Defendants, and
14 Defendants have continued to perpetrate the aforementioned wrongful acts by wrongfully using
15 and disclosing RoadRunner’s trade secrets, including continuing malicious use and disclosure and
16 in willful and conscious disregard of the rights of RoadRunner.

17 79. As a direct and proximate result of Defendants’ willful, improper, and unlawful use
18 and disclosure of RoadRunner’s trade secrets, RoadRunner has suffered and continues to be
19 damaged. RoadRunner will continue to be irreparably damaged unless Defendants are enjoined
20 from further use and disclosure of RoadRunner’s trade secrets.

21 80. The aforementioned acts of Defendants in wrongfully misappropriating
22 RoadRunner’s trade secrets were and continue to be willful and malicious, warranting an award of
23 exemplary damages, as provided by Civ. Code § 3426.3(c), and an award of attorneys’ fees, as
24 provided by Civ. Code. § 3426.4.

25 **SECOND CAUSE OF ACTION**

26 **[Trade Secret Misappropriation Under Defend Trade Secrets Act, 18 U.S.C. § 1836]**

27 81. RoadRunner hereby repeats, realleges and incorporates by reference the allegations
28 which are contained in paragraphs 39 through 49.

1 82. This is a cause of action for misappropriation of trade secrets under the Federal
2 Defend Trade Secrets Act, 18 U.S.C. § 1836, based on the wrongful misappropriation, use, and/or
3 disclosure of RoadRunner’s trade secrets as embodied in confidential information, including but
4 not limited to Confidential Information as defined in the Terms, that RoadRunner provided under
5 strict use and disclosure restrictions, which is used in or intended for use in both interstate and
6 foreign commerce.

7 83. RoadRunner’s trade secrets at issue in this action are (1) the overall waste and
8 recycling metering system, (2) smart camera apparatus, (3) optical assembly and design, (4) image
9 preprocessing in camera apparatus for use by machine-learning training and operation, (5) training
10 data stored in a database and comprising labeled and tagged images and associated metadata, and
11 (6) algorithms and processes to generate data, analysis, and recommendations to customers,
12 including fullness, emptiness, contamination, schedules, data ingestion efficiencies, and location
13 analysis of waste containers. These trade secrets are more fully detailed herein and in Plaintiff’s
14 Identification of Trade Secrets.

15 84. RoadRunner’s confidential information embodied in these six trade secrets operate
16 as trade secrets because they derive independent economic value from not being generally known
17 to the public or to others who can obtain economic value from their disclosure or use.

18 85. RecycleSmart, RTS’s predecessor-in-interest, gained access to RoadRunner’s trade
19 secrets in the course of a contractual relationship with Compology, RoadRunner’s predecessor-in-
20 interest, and was under an obligation to maintain the secrecy of RoadRunner’s trade secret
21 information obtained during its contractual relationship with RoadRunner and thereafter.
22 RecycleSmart was also under an obligation not to use RoadRunner’s trade secrets for any
23 purposes beyond the limitations of use according to Section 2.1.5 of the Terms, including but not
24 limited to copying, adapting, modifying, or creating derivative works of RoadRunner’s waste
25 metering system, reverse engineering and attempting to derive the source code and other
26 components of the waste metering system, using the waste metering system in a manner that
27 infringes, misappropriates, and violates intellectual property rights in RoadRunner’s trade secrets,
28 and combining and integrating RoadRunner’s trade secrets with software, technology, services,

1 and/or materials not authorized by RoadRunner.

2 86. As detailed herein, on information and belief, RecycleSmart gained access to
3 RoadRunner’s trade secrets by wrongfully disassembling and reverse engineering Compology’s
4 smart camera assembly, through which it learned about Compology’s smart camera apparatus,
5 optical assembly and design, and image preprocessing techniques. On information and belief,
6 RecycleSmart learned further details concerning Compology’s image preprocessing techniques by
7 examining Compology’s firmware, by examining firmware updates, and through customer service
8 communications. RecycleSmart, on information and belief, derived Compology’s machine
9 learning models and algorithms and processes through access to Compology’s application and
10 through numerous customer service communications, and by wrongfully obtaining Compology’s
11 training data through access to millions of labeled and tagged images taken by Compology’s
12 cameras (and Pello cameras) for use in developing the Pello camera system.

13 87. In addition, in violation of RecycleSmart’s obligations to maintain the secrecy of
14 RoadRunner’s trade secrets, RecycleSmart disclosed RoadRunner’s trade secrets to members of
15 the general public to develop the competing Pello product.

16 88. Defendants have used and disclosed and continue to use and disclose
17 RoadRunner’s trade secrets without RoadRunner’s consent or permission, in an attempt to benefit
18 Defendants, and beyond the limitations of use according to Section 2.1.5 of the Terms.

19 89. Defendants have used or disclosed RoadRunner’s trade secrets maliciously and in
20 willful and conscious disregard of the rights of RoadRunner.

21 90. Defendants are each liable for the wrongful acts of the other Defendants, and
22 Defendants have continued to perpetrate the aforementioned wrongful acts by wrongfully using
23 and disclosing RoadRunner’s trade secrets, including continuing malicious use and disclosure and
24 in willful and conscious disregard of the rights of RoadRunner.

25 91. As a direct and proximate result of Defendants’ willful, improper, and unlawful use
26 and disclosure of RoadRunner’s trade secrets, RoadRunner has suffered and continues to be
27 damaged. RoadRunner will continue to be irreparably damaged unless Defendants are enjoined
28 from further use and disclosure of RoadRunner’s trade secrets.

1 Confidential Information to third parties, (2) copying, adapting, modifying, or creating derivative
2 works of RoadRunner's waste and recycling metering technology, (3) reverse engineering or
3 attempting to derive the source code and other components of the waste and recycling metering
4 technology, (4) using the waste and recycling metering technology in a manner that infringes,
5 misappropriates, and violates intellectual property rights in RoadRunner's trade secrets as
6 embodied in its Confidential Information, and (5) combining or integrating RoadRunner's waste
7 and recycling metering technology with software, technology, services, and/or materials not
8 authorized by RoadRunner.

9 99. Defendants continue to wrongfully retain and use RoadRunner's Confidential
10 Information without excuse under law or contract.

11 100. RoadRunner has fully performed all of its material obligations and satisfied all
12 conditions for performance under the Terms except those that were waived or excused or are
13 unenforceable by Defendants.

14 101. Defendants have willfully, and with conscious disregard for the contractual
15 obligations owed to RoadRunner, breached the Terms.

16 102. Unless restrained and enjoined by the Court, Defendants will continue to breach the
17 Terms.

18 103. As a foreseeable, direct and proximate result of Defendants' breach of contract,
19 RoadRunner has suffered irreparable injury to its rights and pecuniary damages. RoadRunner will
20 continue to suffer such injury, loss, and damage unless and until Defendants are required to return
21 RoadRunner's Confidential Information, and enjoined from further use and disclosure of
22 RoadRunner's Confidential Information.

23 104. But for Defendants' breaches of contract, RoadRunner would not have been injured
24 by Defendants unlawfully disclosing and using RoadRunner's Confidential Information or by
25 failing to return RoadRunner's Confidential Information.

26 105. Defendants have derived and received and will continue to derive and receive from
27 the aforementioned breach of contract, gains, profits, and advantages.

28 106. RoadRunner is entitled to injunctive relief as well as damages, the nature and

1 extent of which will be proved at trial.

2 **PRAYER FOR RELIEF**

3 WHEREFORE, RoadRunner prays for the following relief:

- 4 1. A judgment that Defendants are liable on all causes of action alleged herein;
- 5 2. An order requiring Defendants to account for all gains, profits and advantage
6 derived from their misappropriation of RoadRunner's confidential, proprietary and/or trade secret
7 information;
- 8 3. An order requiring Defendants to disgorge all profits earned from their unlawful
9 conduct, together with restitution to RoadRunner arising from Defendants' unlawful conduct;
- 10 4. An order awarding actual damages according to proof;
- 11 5. An order awarding exemplary and/or punitive damages to the extent allowed by
12 law and in an amount according to proof;
- 13 6. An order awarding pre-judgment and post-judgment interest;
- 14 7. An order awarding attorneys' fees, costs and expenses;
- 15 8. Preliminary and permanent injunctive relief pursuant to which Defendants, and
16 their employees, officers, directors, and/or representatives, and all persons acting in concert or
17 participating with it are ordered, enjoined, or restrained, directly or indirectly, by any means
18 whatsoever, as follows:
 - 19 (a) From manufacturing, making, distributing, marketing, offering to sell or
20 selling products that utilize, embody, or were developed using
21 RoadRunner's trade secrets;
 - 22 (b) From disclosing or using anywhere RoadRunner's trade secrets;
 - 23 (c) From disclosing or using anywhere any RoadRunner trade secret or other
24 proprietary or confidential information or information derived therefrom;
 - 25 (d) From offering to sell or selling to anyone, anywhere, any products that use
26 any RoadRunner trade secret or other proprietary or confidential
27 information, specifically including RoadRunner's trade secrets and
28 RoadRunner's Confidential Information;

JMBM
Jeffer Mangels
Butler & Mitchell LLP

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- (e) Immediately preserving and returning to RoadRunner (i) all copies of all RoadRunner’s documents and proprietary or confidential information, including without limitation RoadRunner’s trade secrets and RoadRunner’s Confidential Information, and any trade secret and other confidential or proprietary information acquired directly or indirectly from RoadRunner; (ii) all copies of all materials (in paper, electronic, or any other form) containing any, or derived from any, RoadRunner’s trade secrets or other confidential or proprietary information; and (iii) all physical materials, including all prototypes, designs, modules, parts, electronics, or otherwise in Defendants’ possession relating to the Pello product; and
- (f) Turning over to the Court any proceeds that Defendants have received from their misappropriation of RoadRunner’s trade secrets and proprietary and confidential information and other unlawful conduct, including all proceeds received in connection with the Pello product, such proceeds to be held in constructive trust until the conclusion of this litigation; and

9. All such other relief that the Court deems just and proper.

DATED: January 16, 2024

JEFFER MANGELS BUTLER & MITCHELL LLP
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By: 
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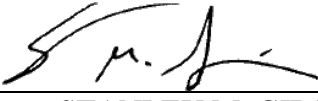
DEMAND FOR JURY TRIAL

Plaintiff RoadRunner Recycling, Inc. hereby demands a trial by jury in the above-captioned matter on all matters so triable.

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DATED: January 16, 2024

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