CASE STUDY
Revolutionising Beverage Quality: How Creature Comforts found comfort with Konvoy Cloud

July 2024

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Revolutionising Beverage Quality:
How Creature Comforts found comfort with Konvoy Cloud

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The Problem

- Creature Comforts, founded in 2014, is a purpose driven B-Corp brewery based in Athens, Georgia and Los Angeles.

- It prides itself on delivering quality beer to its customers, however had no ability to guarantee that quality throughout the supply chain.

The Solution

- Konvoy, a leader in keg rental, introduced IoT Keg Tracking Technology to address challenges related to product quality, lost assets and asset efficiency

- Creature Comforts fit 100 of their kegs with Konvoy's solution in 2024.

The Benefits

- Identified root cause of temperature anomalies at distributor and venue.

- Improved draught quality to customer.

- Eliminated lost kegs on the tracked fleet.

- Gained understanding of dwell time at location.

The challenges that brewers face:

The beverage industry faces significant challenges in maintaining product quality during storage and transportation in the supply chain. Elevated temperature and mishandling can lead to spoilage, impacting quality and safety of the products. Traditional methods of tracking kegs are often manual, time-consuming, and inaccurate.

Konvoy has addressed these issues by developing an IoT-based tracking solution that tracks movement, location and temperature and turns these into actionable insights to customers.

Daniel LePage
Director of Quality

CREATURE COMFORTS Brewing Co.

> " *Product quality is at the core of what we do; we spend every ounce of energy ensuring that our beer is in its optimal state when leaving the brewery.*
>
> *The problem is, once it does leave the brewery, tracking every point-of-sale is impossible. It's largely a black box and can easily lead to poor consumer experiences if not monitored correctly.* "

Elevated Temperatures in the supply chain leading to faster product ageing

Poor product delivered into venue impacting customer experience

Lost kegs leading to increased capital expenditure

Long empty keg dwell time leading to slow asset turns and increased capital expenditure

katch

Konvoy's Katch & Konvoy Cloud Solution:
Konvoy's Katch tracking device and Konvoy Cloud platform track live location, movement and temperature data, all without the need to scan.

Katch Tracking Device

- A low-cost, secure, purpose-built device that can be attached to kegs in less than 30 seconds

- Tracks location, temperature and movement in real time.

- Built to withstand the harsh life of a keg – IK10 and 1P69K rates

- Global coverage

- Multiple applications across other assets

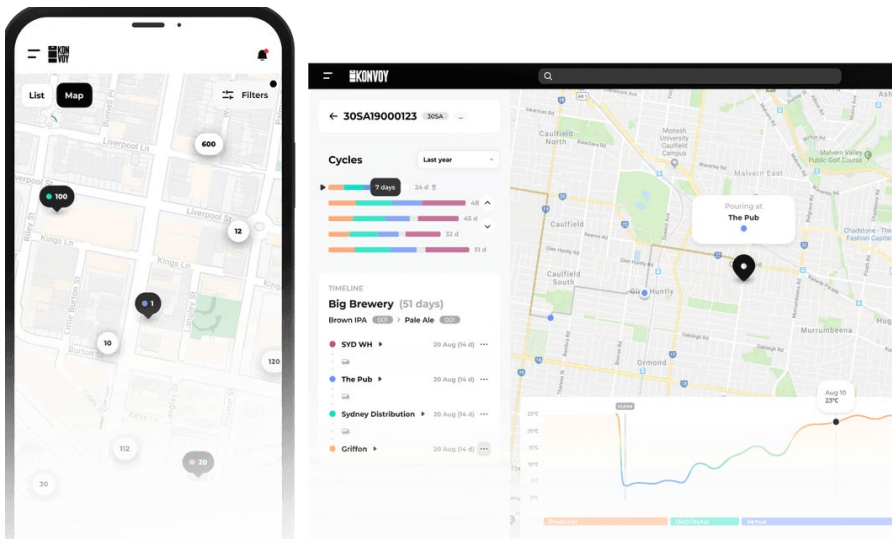Location tracking around **the world In 40+ countries**

7+ Years **battery**[1]

Fits to kegs of **all shapes and sizes**

Partnered with the **world's leading industry manufacturer**

GOOD DESIGN AWARD® WINNER

PACKAGING STARTUP AWARDS 2023

Konvoy Cloud Platform

- A simple and intuitive cloud-based platform that receives the raw data from Katch and turns it into actionable insights.

" *What I like about Konvoy Cloud is that Konvoy have deployed this solution to their own 300,000 keg fleet.*

They have built this for their own genuine need, understand fleet owners and have used their own fleet as guinea pigs. "
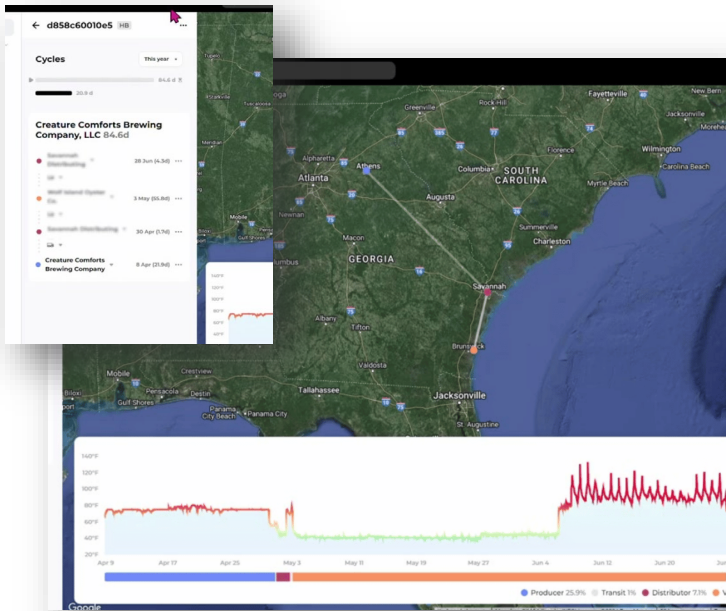
1 – Estimate based on 2 transmissions per day

Putting supply chain quality back in the hands of producers: Creature Comforts was able to address temperature deviations promptly enabling significant improvement in temperature control in the supply chain.

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Problem:
Temperature fluctuations in the supply chain

Creature Comforts was flying blind with respect to product quality within the supply chain.

Konvoy Cloud Solution:
Real time temperature alerts and notifications

Konvoy Cloud shows the keg's temperature throughout the supply chain (see image).

Konvoy worked with Creature Comforts to set up temperature alerts for kegs, alerting them if kegs reached a certain temperature threshold.

Creature Comforts reported a significant improvement in temperature control within the distribution supply chain. Real-time monitoring and alerts enabled them to address temperature deviations promptly, ensuring that their beer remained fresh and of high quality.

Benefits

① **Identified temperature fluctuations**

"On day one we were able to confirm our suspicions that one of our distributors was not cold storing product on arrival, at times leaving ambient for hours which is outside of the agreement."

② **Improved interactions with 3PL providers**

"It is clear from the data that some distributors are pre-loading warm trucks between 3-5pm each afternoon for next day deliveries, confirming why venues might have issues with beer frothing when tapped immediately after delivery. We can now work with everyone on how to prevent these issues."

③ **Managed Customer Experience**

"We have identified venues who have not been cold storing product and we can even notice when they might have over-ordered. Real-time data allows us to correct the problem before the beer gets to consumers.."

Real time tabs on location: Konvoy Cloud has enabled Creature Comforts to avoid future keg capital expenditure by eliminating lost kegs and understanding cycle time.

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Problem:
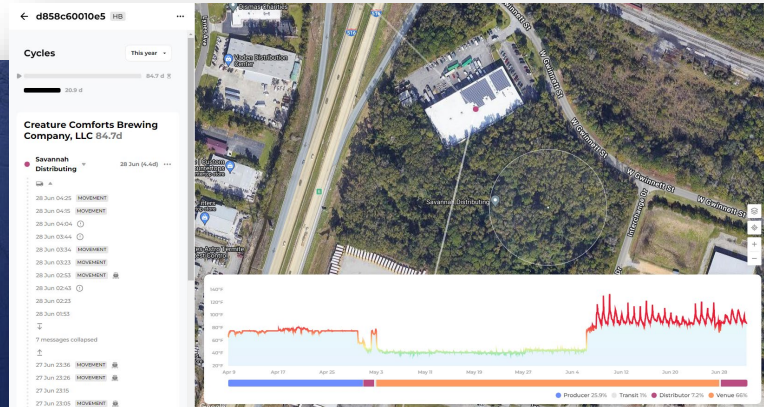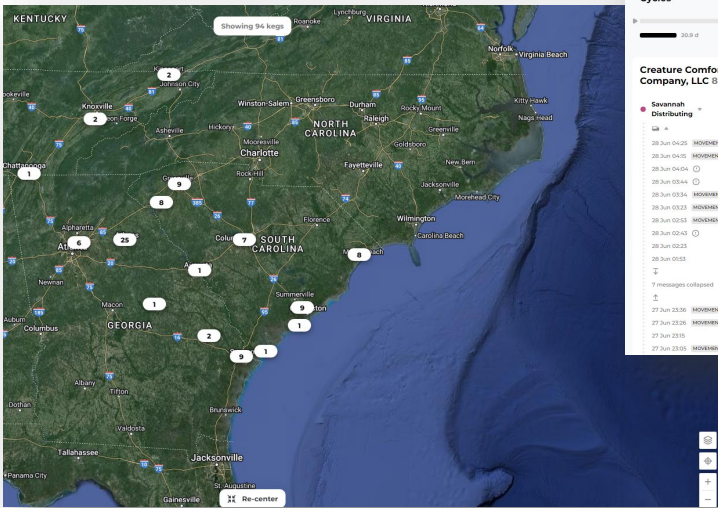### Lost kegs due to limited supply chain visibility

Once the kegs leave the brewery, Creature Comforts are effectively blind to their location, leaving them at risk of being collected by another producer, lost or stolen.

This creates an ongoing and unnecessary need for annual keg capital expenditure.

Konvoy Cloud Solution:
Global map of keg locations

Konvoy Cloud enables real-time tracking of kegs via the 5G cellular network enabling customers to see the real time keg location (left image).

Additionally, Konvoy Cloud capability includes a dynamic database of supply chain points, i.e. venues, 3PLs, transport partners and producers.

Benefits

1 — **0% loss rate on tracked fleet**

"We have been able to see our keg locations in real time in the platform. Lost kegs can be automatically flagged but we've been able to maintain eyes on the entire tracked fleet through hundreds of locations and haven't lost one yet."

2 — **Understanding of cycle time**

Creature Comforts were able to identify the specific time kegs were spending at known and unknown locations. Areas which they can now optimise to reduce future capital expenditure.

3 — **Reduced inefficient collection methods**

Creature Comforts avoided the need for manual processes, i.e. spreadsheet entry and venue calling. Keg location and temperature can automatically combine to infer when a keg is ready for collection.

Summary: Konvoy Cloud has improved the quality assurance of the Creature Comforts product through the supply chain while eliminating lost kegs and optimising asset turns.

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By the Numbers

100
Devices fitted to kegs

2.3m
Individual temperature readings

0%
Lost kegs recorded

206
Average miles travelled per tracked keg cycle

Benefits

- ✓ Real-time monitoring and alerts to address temperature deviations promptly.
- ✓ Elimination of lost kegs
- ✓ Identification of missing or unknown locations in the supply chain.
- ✓ Increased efficiencies in empty keg collection and redistribution.

> "It has been so rewarding to apply my 17+ years in logistics and 8 years in keg pooling to a technical solution that is at the forefront of real time analytics and operational excellence. It is providing real outcomes to asset owners.
>
> It's been a pleasure working with Daniel and the wider Creature Comforts team to see the genuine passion and commitment to beverage quality."

Marc Eggins – Chief Operations Officer - Konvoy

What's Next?

- See how Konvoy's cycle analytics platform can improve asset turns and eliminate lost kegs by following us **here**.

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Moving Beverages Forward

Having trouble managing your keg fleet?

Visit us: konvoykegs.com
Contact us: konvoy@konvoykegs.com

Moving Beverages Forward

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Real-time keg tracking is now here

Overcome the challenges of returnable asset management

Konvoy Cloud offers best in class tracking capability built for kegs and other returnable assets.

- **Location tracking** around the world in 40+ countries
- **Battery –** Estimated 7+ years battery life
- **Deployed** on over 100k kegs worldwide
- **Multiple applications** across A – Frames, Cages and IBCs
- **Configurable-** Configure device performance
- **Quality management** through temperature monitoring
- **Partnered-** with the world's leading industry manufacturers

SONY   **QUECTEL**

Visibility throughout the supply chain in real time

Konvoy Cloud empowers fleet asset management, ensuring real time visibility is transformed into value.

- **Simple and intuitive platform –** allowing you to manage your fleet from day 1
- **Timely alerts and notifications –** focus by exception when you are short on time
- **Detailed cycle time analytics –** pinpoint bottlenecks in the supply chain
- **Intuitive location management –** Manage your own supply chain location assisted by our curated list of locations
- **Streamline asset processes –** eliminate hours wasted on manual tracking
- **Measure & Target C02e –** Identify the carbon footprint of an asset journey coming soon

Trusted by

CREATURE COMFORTS Brewing Co.

BEDFORD BREW POINT BEER & BEYOND

REBELLION BEER Co.

BRASSERIE DU MONT BLANC

SULLIVAN'S BREWING COMPANY

SYDNEY BREWERY

WICKLOW WOLF

LERVIG

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Katch

Dimensions

- 116 x 53 x 40mm

Device Event Capture

- Location
- Temperature logging
- Movement, rotation
- Keg clean
- Activation

Battery

- Estimated > 7 years battery life based on 2 transmissions per day
- Non rechargeable 3.6V 6,000mAh Li-SoCl2 Battery

Device Configuration

- Configurable device parameters
- Install to all major keg formats with wider application to other asset classes

Location Method

- Indoor/outdoor asset location using Wi-Fi positioning
- Cell tower fallback for positioning
- Accuracy – 10m – 100m with Wi-Fi in urban areas. Results vary depending on real world conditions.

Communication

- 2 x data transmissions per day
- Global coverage across LTE CAT-M1 and NB-IoT

Rating

- IK10 and IP69K rated to ensure device can withstand impact, dust and high-pressure water

Konvoy Cloud

- Simple and intuitive platform to turn events into actionable insights
- Configured alerts to report on an exception basis

Pending Certifications

- CE: RED 2014/53/EU EN 301 511, EN 300 328, EN 62311
- US: FCC part 15B, Class II permissive change
- AU: ACM, conformance certified by EU NB

Visit us: konvoykegs.com
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