

**cognovi** Labs  
*Listen to the future*

**EMOTION AI PREDICTS  
CONSUMER PURCHASING INTENT**

August 7, 2019



# 3<sup>RD</sup> PARTY VALIDATION OF COGNOVI'S SIGNALS



Cognovi's Emotion AI independently validate for its predictive power.

### Cognovi Long by Cognovi Labs

Performance 1/1/16 - 4/25/19

**Investment Approach**

**About Cognovi:**  
Cognovi Labs' Emotion AI quantifies consumer purchasing intent toward a company, brand, product or service. Cognovi's proprietary AI, at the intersection between machine learning and behavioral psychology, analyzes various text-based sources, extracts the emotional undertone and quantifies the consumer's next actions. Since 70-90% of people's decisions are based on emotions, Cognovi's behavioral factors go well beyond existing sentiment tools and provide predictive insights into future company sales and KPI performance.

**Backtest: Cognovi Long**  
The portfolio's goal is to outperform the SPDR S&P Retail (XRT) in Total Return, and Sharpe Ratio, while maintaining lower volatility. The Cognovi Long portfolio is based on consumer intent and emotional scores generated by Cognovi. Additionally, moving averages and stability factors are calculated from these scores to construct a multi factor model geared to identify constituents for entry. One additional volatility factor was added to the model to further ensure low vol constituents are selected.

**Here is how the backtest is conducted:**

- Each day we scan the Cognovi Universe (180 large cap consumer stocks) for constituents that match the criteria outlined above.
- We allocate the portfolio value equally among all the constituents.
- We hold the constituents as long as they satisfy the selection criteria.
- Transaction cost and slippage are considered.

**Performance Versus Benchmark 1/1/16 to 4/25/19**

	Strategy Overall	Bench Overall	Strategy TTM	Bench TTM
Abs. Return	66.25%	10.86%	14.54%	1.85%
Rel. Return	55.39%	N/A	12.69%	N/A
Beta	0.38	N/A	0.39	N/A
Std. Dev	0.78%	1.22%	0.82%	1.23%
Sharpe	1.30	0.26	1.11	0.19
Draw Down	-14.04%	-26.23%	-14.04%	-26.23%
IR	0.71	N/A	0.67	N/A
R <sup>2</sup>	0.34	N/A	0.35	N/A

**Historical Summary**

	1 Yr	2 Yr	3 Yr	5 Yr	10 Yr
Ann. Return	14.54%	14.72%	16.31%	N/A	N/A
Std. Dev	0.82%	0.80%	0.77%	N/A	N/A
Ann. Volatility	13.03%	12.66%	12.15%	N/A	N/A

### Cognovi Short by Cognovi Labs

Performance 1/1/16 - 4/25/19

**Investment Approach**

**About Cognovi:**  
Cognovi Labs' Emotion AI quantifies consumer purchasing intent toward a company, brand, product or service. Cognovi's proprietary AI, at the intersection between machine learning and behavioral psychology, analyzes various text-based sources, extracts the emotional undertone and quantifies the consumer's next actions. Since 70-90% of people's decisions are based on emotions, Cognovi's behavioral factors go well beyond existing sentiment tools and provide predictive insights into future company sales and KPI performance.

**Backtest: Cognovi Short**  
The portfolio's goal is to outperform the Proshares TR/SHORT S&P 500 (SSH) in Total Return, and Sharpe Ratio, while minimizing volatility and drawdown. The Cognovi Short portfolio is based on consumer intent and emotional scores generated by Cognovi. Additionally, moving averages and stability factors are calculated from these scores to construct a multi factor model geared to identify constituents primed for entry.

**Here is how the backtest is conducted:**

- Each day we scan the Cognovi Universe (180 large cap consumer stocks) for constituents that match the criteria outlined above.
- We allocate the portfolio value equally among all the constituents.
- We hold the constituents as long as they satisfy the selection criteria.
- Transaction cost and slippage are considered.

**Performance Versus Benchmark 1/1/16 to 4/25/19**

	Strategy Overall	Bench Overall	Strategy TTM	Bench TTM
Abs. Return	39.88%	-35.73%	26.64%	-9.33%
Rel. Return	75.61%	N/A	35.97%	N/A
Beta	0.84	N/A	0.76	N/A
Std. Dev	1.33%	0.81%	1.27%	0.94%
Sharpe	0.58	-0.97	1.27	-0.58
Draw Down	-19.71%	-41.28%	-11.03%	-19.82%
IR	1.36	N/A	2.00	N/A
R <sup>2</sup>	0.26	N/A	0.31	N/A

**Historical Summary**

	1 Yr	2 Yr	3 Yr	5 Yr	10 Yr
Ann. Return	26.64%	12.80%	16.56%	N/A	N/A
Std. Dev	1.28%	1.20%	1.34%	N/A	N/A
Ann. Volatility	20.40%	18.97%	21.25%	N/A	N/A

Long Hit Rate\* 59%

Short Hit Rate\* 65%

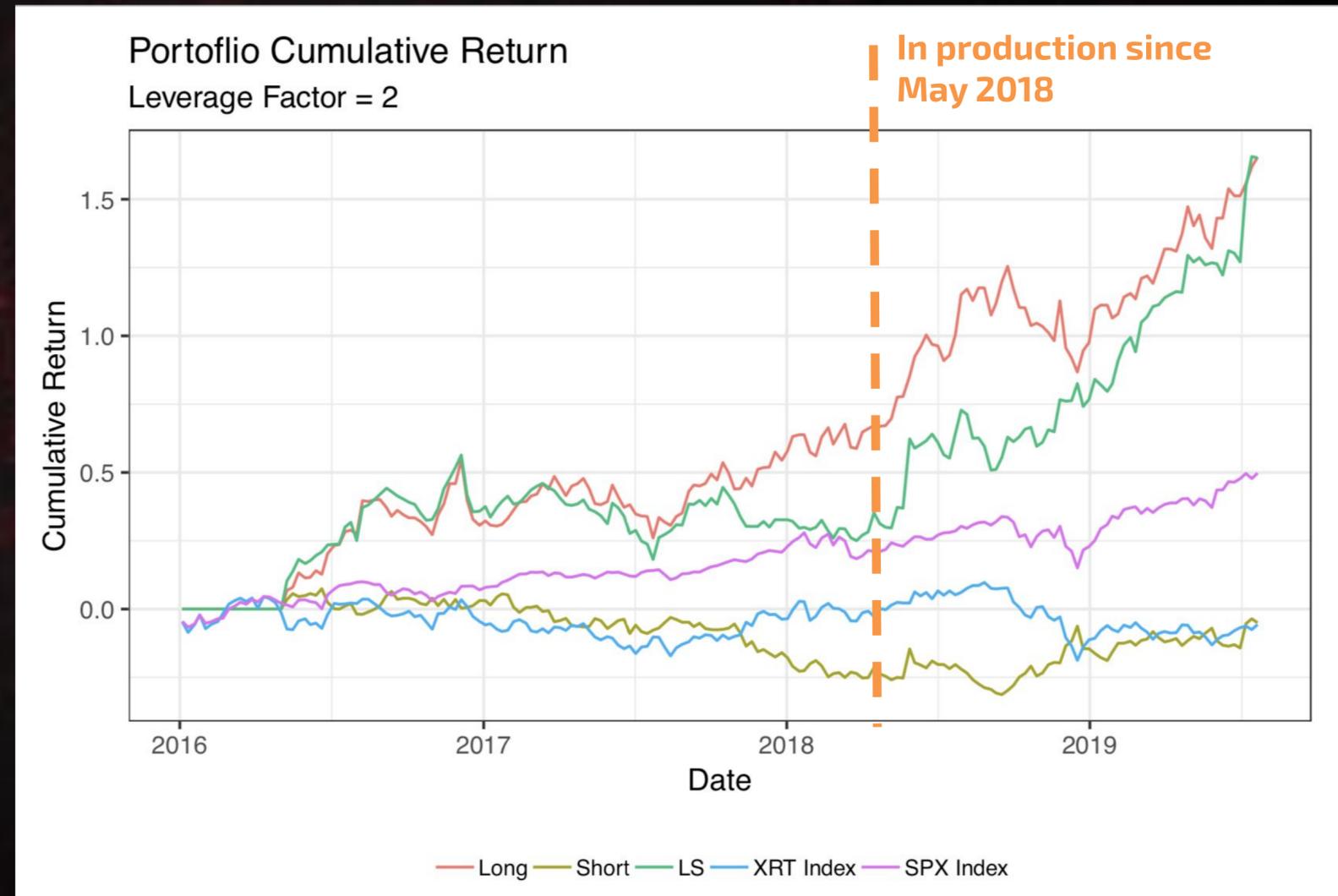
\*Successful transactions after transaction cost and slippage.

# ILLUSTRATIVE COGNOVI STRATEGY

Cognovi's internal analysis highlights the continued strong performance of its illustrative trading strategy even after going into production in May 2018.

Strategy is paper traded since May 2018.

	Long	Short	LS	XRT	SPX
Annualized Return	0.314	-0.014	0.313	-0.016	0.12
Volatility	0.203	0.191	0.225	0.177	0.118
Information Ratio	1.544	-0.075	1.395	-0.091	1.015



Weekly signals, trading Monday close to Monday close, no transaction costs or slippage, no risk control or portfolio optimization, Long-Short has 2x leverage (100% long/ 100% short)

# VALIDATED ON 3<sup>RD</sup> PARTY PLATFORM

Illustrative Cognovi strategy performance confirmed, even **stronger after correcting for the market and risk factors.**

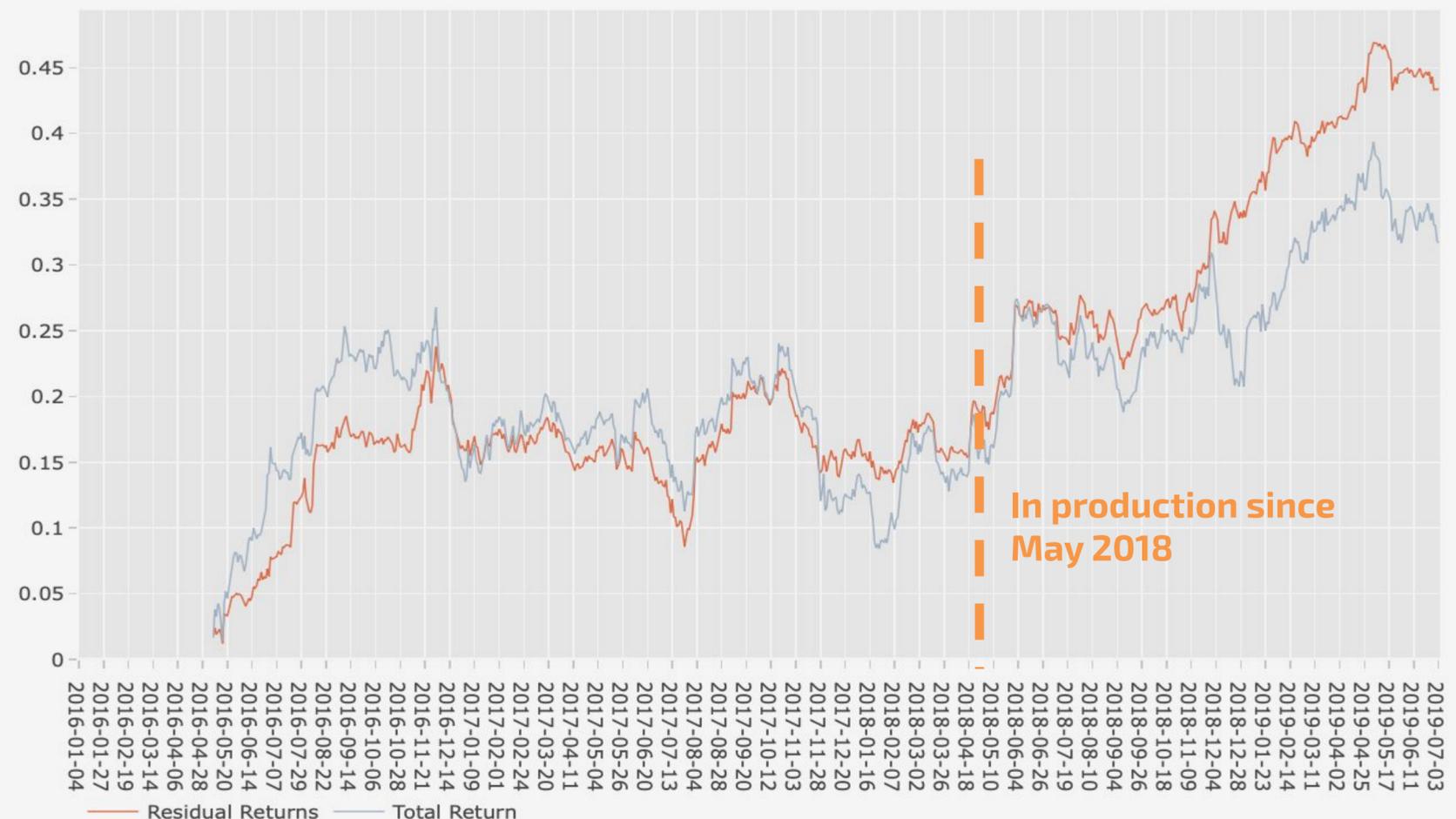
The analysis is generated on the Antenna platform by BAM Funds, incorporating Axioma's risk model.

Note that this performance is unlevered (50% long and 50% short exposure).

## Factor Summary

Return Type	Annual Rtn	Annual Vol	Avg GMV	Avg Coverage	Hit Ratio	Periods	Sharpe
Residual Returns	13.78%	9.8%	1.0	47	55.8%	165	1.41
Total Return	10.05%	13.0%	1.0	47	53.9%	165	0.77

## Cumulative Returns



Weekly signals, trading Monday close to Monday close, no transaction costs or slippage, no risk control or portfolio optimization, Long-Short unleveraged (50% long/ 50% short)

A LEGO Technic robot, resembling WALL-E, is shown from the chest up. It has two large, black, camera-like eyes on top of its head. Its body is primarily yellow and black. The robot is holding a small, dried plant stem in its right hand. The text "THANK YOU" is printed in white, bold, sans-serif capital letters across the center of its chest. Below the text, on the yellow part of the robot's body, the words "cognovi Labs" are printed in a smaller, black, sans-serif font. The background is a blurred, bright outdoor scene with a large, warm light source on the right side, creating a bokeh effect. The overall color palette is dominated by the yellow of the robot, the black of its components, and the warm, golden light of the background.

THANK YOU

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# CONTACT US

We are tackling the next challenge for data interpretation by making the intangible tangible. We'd love to show you how.

Contact us to talk about the predictive analytics landscape, Cognovi Labs' AI capabilities and solutions.

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