

# STOXX® USA 900 MINIMUM VARIANCE UNCONSTRAINED INDEX

## Index description

The STOXX USA 900 Minimum Variance index weights the components of the underlying STOXX USA 900 so that portfolio variance is minimized. STOXX uses Axioma's factor model for the optimization process. The Unconstrained version applies loosely stated constraints to seek an improved risk profile. It targets investors seeking a more optimal portfolio in terms of replicated volatility.

## Key facts

»Minimized volatility is suitable for risk-averse investors. At the same time, the return of the index is higher than the benchmark.

»Suitable as a liquid underlying for ETFs and structured products. It is easy to replicate as it has fewer components than the underlying Index. It also has predictable rebalancing dates and is optimized to allow tracking (low turnover, transaction costs analysis, etc.).

»Capping constraints are applied in accordance with the Undertakings for Collective Investment in Transferable Securities (UCITS) directive to ensure that funds can easily track the index.

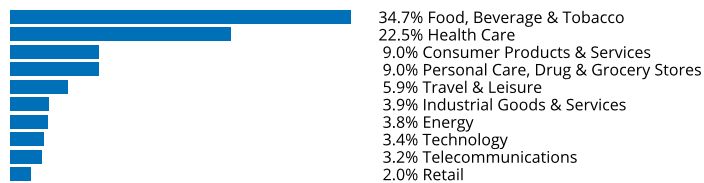
»Two versions - Constrained and Unconstrained - cater to different investor needs.

»The Unconstrained version offers a first-of-its-kind index for a true minimum variance mandate.

## Descriptive statistics

Index	Market cap (EUR bn.)		Components (EUR bn.)				Component weight (%)		Turnover (%)
	Full	Free-float	Mean	Median	Largest	Smallest	Largest	Smallest	Last 12 months
STOXX USA 900 Minimum Variance Unconstrained Index	N/A	98.2	1.1	0.5	7.5	0.0	7.6	0.0	20.0
STOXX USA 900 Index	37,329.6	35,793.4	39.7	12.4	2,490.5	1.8	7.0	0.0	3.1

## Supersector weighting (top 10)



## Country weighting



## Risk and return figures<sup>1</sup>

Index returns	Return (%)					Annualized return (%)				
	Last month	YTD	1Y	3Y	5Y	Last month	YTD	1Y	3Y	5Y
STOXX USA 900 Minimum Variance Unconstrained Index	-0.9	-1.4	0.2	24.3	44.4	N/A	N/A	0.2	7.6	7.7
STOXX USA 900 Index	4.0	9.2	3.1	46.6	79.8	N/A	N/A	3.1	13.7	12.6
Index volatility and risk	Annualized volatility (%)					Annualized Sharpe ratio <sup>2</sup>				
STOXX USA 900 Minimum Variance Unconstrained Index	10.4	14.9	16.0	14.3	17.7	N/A	N/A	-0.2	0.5	0.4
STOXX USA 900 Index	14.0	16.5	20.9	19.4	22.4	N/A	N/A	0.1	0.7	0.5
Index to benchmark	Correlation					Tracking error (%)				
STOXX USA 900 Minimum Variance Unconstrained Index	0.6	0.7	0.8	0.8	0.8	11.8	12.4	13.7	12.9	12.1
Index to benchmark	Beta					Annualized information ratio				
STOXX USA 900 Minimum Variance Unconstrained Index	0.5	0.6	0.6	0.6	0.7	-4.9	-2.4	-0.4	-0.6	-0.4

<sup>1</sup> For information on data calculation, please refer to STOXX calculation reference guide.

<sup>2</sup> Based on EURIBOR1M

(EUR, gross return), all data as of May 31, 2023

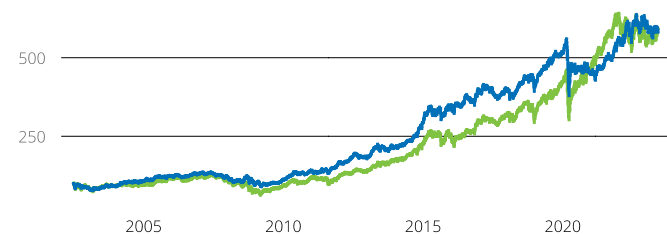
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## Fundamentals (for last 12 months)

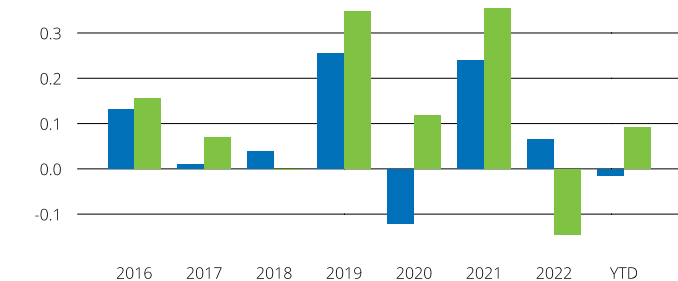
Index	Price/earnings incl. negative		Price/earnings excl. negative		Price/ book	Dividend yield (%) <sup>3</sup>	Price/ sales	Price/ cash flow
	Trailing	Projected	Trailing	Projected	Trailing	Trailing	Trailing	Trailing
STOXX USA 900 Minimum Variance Unconstrained Index	-78.5	17.7	23.6	16.9	3.6	2.4	1.7	20.2
STOXX USA 900 Index	27.7	19.3	21.2	18.8	0.1	1.7	2.2	17.0

## Performance and annual returns<sup>4</sup>



— STOXX® USA 900 Minimum Variance Unconstrained Index

— STOXX® USA 900 Index



■ STOXX® USA 900 Minimum Variance Unconstrained Index ■ STOXX® USA 900 Index

## Methodology

On the basis of the underlying index, a covariance matrix is set up by determining the correlation between each component and specific factors. Using Axioma's factor model, the variance-covariance structure of the components is determined, which is then minimized with respect to applicable constraints. The constraints applied cover individual capping, effective number of assets, rebalancing and turnover. The full list of factors including the requirements to be met can be accessed in our Index rulebook: <http://www.stoxx.com/indices/rulebooks.html>

## Versions and symbols

Index	ISIN	Symbol	Bloomberg	Reuters
Gross Return EUR	CH0180139351	SA9UUNGR		.XA9UUNGR
Net Return EUR	CH0180139195	SA9UUNR		.XA9UUNR
Net Return EUR	CH0180139195	SA9UUNR		.XA9UUNR
Price EUR	CH0180139039	SA9UUNP		.XA9UUNP
Price EUR	CH0180139039	SA9UUNP		.XA9UUNP
Gross Return USD	CH0180139831	SA9UUNGV	SA9UUNGV INDEX	.XA9UUNGV
Net Return USD	CH0180139674	SA9UUNV	SA9UUNV INDEX	.XA9UUNV
Net Return USD	CH0180139674	SA9UUNV	SA9UUNV INDEX	.XA9UUNV
Price USD	CH0180139518	SA9UUNL	SA9UUNL INDEX	.XA9UUNL
Price USD	CH0180139518	SA9UUNL	SA9UUNL INDEX	.XA9UUNL

Complete list available here: [www.stoxx.com/data/vendor\\_codes.html](http://www.stoxx.com/data/vendor_codes.html)

## Quick facts

Weighting	Optimization
Cap factor	4.5% / 8% / 35%
No. of components	Variable
Review frequency	Monthly

To learn more about the inception date, the currency, the calculation hours and historical values, please see our data vendor code sheet.

## CONTACT DETAILS

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## BACKTESTED PERFORMANCE

This document contains index performance data based on backtesting, i.e. calculations of how the index might have performed prior to launch if it had existed using the same index methodology and based on historical constituents. Backtested performance information is purely hypothetical and is provided in this document solely for information purposes. Backtested performance does not represent actual performance and should not be interpreted as an indication of actual performance.

## CUSTOMIZATION

The index can be used as a basis for the definition of STOXX® Customized Indices, which can be tailored to specific client or mandate needs. STOXX offers a wide range of customization, in terms of component selection, weighting schemes and personalized calculation methodologies.

<sup>3</sup> gr. div. yield is calculated as gr. return index return minus price index return

<sup>4</sup> STOXX data from Jun. 28, 2002 to May 31, 2023

## MINIMUM VARIANCE

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### Top 10 Components<sup>5</sup>

<b>Company</b>	<b>Supersector</b>	<b>Country</b>	<b>Weight (%)</b>
Hershey Co.	Food, Beverage & Tobacco	United States	7.60
Kellogg Co.	Food, Beverage & Tobacco	United States	6.35
Activision Blizzard Inc.	Consumer Products & Services	United States	5.69
Johnson & Johnson	Health Care	United States	5.19
Church & Dwight Co.	Personal Care, Drug & Grocery Stores	United States	4.89
MONDELEZ	Food, Beverage & Tobacco	United States	4.82
J.M. Smucker Co.	Food, Beverage & Tobacco	United States	3.72
Merck & Co. Inc.	Health Care	United States	3.44
General Mills Inc.	Food, Beverage & Tobacco	United States	3.39
Campbell Soup Co.	Food, Beverage & Tobacco	United States	2.82

<sup>5</sup> Based on the composition as of May 31, 2023