

ATONRÂ BIONICS CERTIFICATE

The Bionics Index is a long-only, USD-based, actively managed total return index.

Innovations in the fields of medicine, artificial intelligence, robotics and sensors are finally giving a new life to medical technologies and are making human enhancement a reality.

Bionics, which is taking on human body dysfunctions and disabilities and, more globally, helping improve the wellness and lifespan of the world population, will arguably benefit from long-term drivers, notably an ageing world population, a shortage of donated organs, the limit of age for organ transplantation and technological advancements.

The investment universe encompasses next-generation prosthetics, medical wearables and devices, surgical robots, exoskeletons, 3D printing, synthetic biology and artificial intelligence that all play a major role in the emergence of bionics.

Main Features

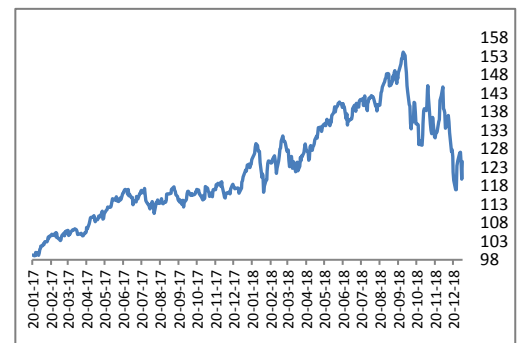
Asset Class	Equity
Inception Date	12-Jan-17
Currency	USD
Type of Return	Total Return
Ticker	NXSRBION
ISIN	XS1317063912
Issuer	NATIXIS
Issue Price	100.0
Last Price	127.0
Sharpe Ratio	0.71
Correlation	0.79
Beta	1.39
Benchmark	MSCI World Health Care

MONTHLY RETURNS (%)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
2018	9.7%	-2.9%	0.6%	2.6%	5.9%	0.2%	3.5%	5.8%	4.0%	-12.5%	5.5%	-10.7%	9.5%
2017	-0.2%	4.3%	2.2%	3.0%	2.9%	2.7%	-2.4%	2.4%	-1.9%	1.7%	3.2%	-2.6%	16.0%

HIGHS/LOWS

	Price	Date
All Time High	154.1	28-Sep-18
All Time Low	99.1	23-Jan-17



December 2018 highlights

The AtonRâ Bionics certificate lost 10.7% in December, underperforming the MSCI World Health Care by 2.6%. In 2018, it outperformed its reference index by 7.0% and launch-to-date (January 12, 2017), it outperforms by 6.8%.

2018 was the year of patient empowerment with healthcare moving out of the hospitals thanks to the increasing use of wearable devices that allow for remote monitoring (telemedicine).

After last year's debut of the **Apple** watch with ECG and atrial fibrillation detection capabilities, the use of health mobile apps is skyrocketing. **Omron**, a medical device and electronics company, is the latest example. The company will begin pre-sales of its FDA-cleared blood pressure monitor that can be worn on the wrist. This marks the end of the traditional methods of blood pressure measurement. Another example of patient empowerment comes from **Bose's** FDA approved self-fitting hearing aids, paving the way for a new, more accessible, class of devices, over-the-counter (OTC) hearing aids.

We expect to see more wearables and remote sensors coming into play, as the roll out of 5G wireless technology in 2019 will boost the connectivity and effectiveness of IoT devices used in telemedicine (raising expectations also for Augmented Reality).

As digital transformation generates a huge amount of data, data analysis is made possible by the use of AI and Machine Learning which improve the accuracy and speed of diagnosis and help to automate the workflow in clinics and hospitals. Driven by these technologies, personalized care applications (e.g. genome technologies) are gaining more ground and a shift from treatment to prevention is taking place. As a consequence, AI applications in medicine have caught the attention of large health companies, willing to combine the two worlds. In this regard, this month, **3M** has acquired **M*Modal's** technology business for \$1bn, which is developing an AI-powered speech technology for transcribing doctor's conversations with their patients, and expanding the company's presence in the medical technology market.

Interest from large Tech companies in the digital health space has also been strong in the last months as illustrated by the involvement of **Alphabet**, **Amazon**, **IBM**, **Microsoft**, **Oracle**, and **Salesforce**, in Medicare's Blue Button 2.0 program, which is to facilitate the interoperability between physicians clinics and patients through the use of Electronic Health Records (EHRs).

The last mention goes to the robotic surgery market, dominated for years by **Intuitive Surgical**, which is becoming increasingly crowded. The necessity for physicians to reduce medical errors and patient burden, with less invasive and more precise surgeries, has increased the use of robots in hospitals, attracting various players. But Intuitive is determined to keep its place and the Da Vinci system is far from becoming obsolete. Last month, surgeons at the University of Pennsylvania performed the first robot-assisted breast reconstruction with the system. Meanwhile, MedTech giants, as well as Japanese and Chinese firms, are looking forward to taking Intuitive's crown, as illustrated notably by the \$1.7bn acquisition of **Mazor Robotics** by **Medtronic** and the \$1.4bn takeover of **K2M** by **Stryker**.

We expect 2019 to continue to be an exciting year for the Bionics theme as medical devices benefit from advancements in different technologies, from AI to 5G and robotics, and get better in supporting elderly, chronically and disabled people.

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Top 3 Contributors

Name

HAMAMATSU PHOTONICS KK
 OSSUR HF
 KONINKLIJKE PHILIPS NV

Worst 3 Contributors

Name

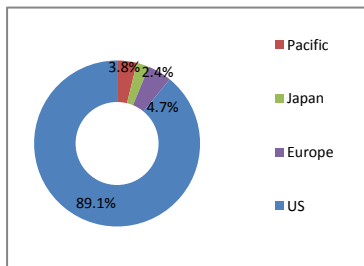
BIOTELEMETRY INC
 OMNICELL INC
 INTEGRA LIFESCIENCES HOLDING

Top 3 Holdings

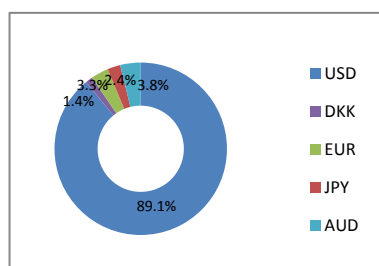
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 INSULET CORP
 OMNICELL INC

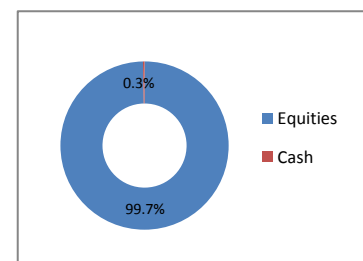
Geographical Breakdown



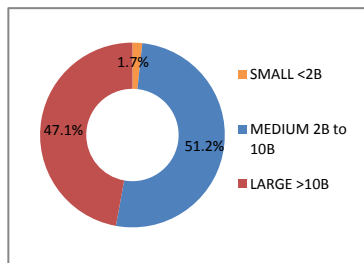
Currency exposure



Asset Allocation



Equity Market Capitalization



Equity Liquidity

1 to 3 days to liquidate*	84%
3 to 5 days to liquidate	16%
More than 5 days to liquidate	0%

*on average daily trading over the last 3M

Important Information

All net estimated returns are based on unaudited, internally prepared assessments and have not been independently verified.

The net estimated returns are subject to adjustments as a result of changes or delays in AtonRā's calculations of the profit and loss of the portfolio. Any such adjustments could have a material impact on the estimated net returns of the AtonRā Basket.

Net returns are reported after deduction of AtonRā's management and/or performance fees.

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