

# Lynx Wins 20 Year Award - But is Not Relaxing

Stockholm (HedgeNordic) - Lynx CTA, one of Sweden's oldest hedge funds, has just received the prestigious EuroHedge award for "Long Term Performance (20 years)" in the Managed Futures category. Over these past 20 years, Lynx has made multiple advances to its systems and operations but some aspects of the programme - such as the core belief in trend following, the presence of diversifying non-trend models and return optimisation targets - have not changed.

Since Lynx's founders invested "sweat equity" through hard unpaid work in the early years of the new millennium, and partnered up with Brummer & Partners in 2002, the organization has continued to grow its infrastructure, operational processes, staffing, and IT resources.

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Lynx's team of over 40 research and development staff have freedom to develop their own ideas and growing computing power has enabled several streams of innovation, including machine learning, which Lynx has been applying since 2011. "Our machine learning models, which make up about 30% of the undiversified risk in the Lynx Programme, require a lot of computing power," says Martin Källström, Partner and Senior Managing Director at Lynx. Various types of data also require the increased IT capacity. Lynx is using larger volumes of data, and more different types of data including non-price data, which it has used since 2015. With shortest holding periods of two to five days, Lynx is certainly not a high frequency trader, but it uses somewhat high frequency data inputs for models. "Models using intraday data need more computer power than old school models. Execution also requires more granular data on ticks, volumes and order books," says co-founder and CEO, Svante Bergström.

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## Model Innovation

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It is possible to design systematic strategies based on simple formulae, but they may suffer from alpha decay. "Our newer models generally perform better than our older ones," says Källström. Lynx has continued to develop and grow its suite of models: it has refined existing models and both added and retired others over the years. The roster of models is reviewed twice a year.

In general, the strategy, including the core trend models making up over 70% of risk, has evolved to incorporate more inputs. "The models used today are mostly multivariate continuous models. We have developed multiple techniques that mitigate the risk of over-fitting a model to historical observations," says Källström.

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From the early days, Lynx was distinguished from ‘pure’ trend followers by its roughly 25% risk budget allocation to diversifying non-trend models, which have also seen higher model turnover than the trend models. This was partly due to a change of approach from mean reversion or counter-trend models to a wider variety of non-trend models. “In the early years, the diversifying models had a negative correlation to trend following whereas today they are more built around expectations of a low correlation of between 0 and 0.5,” says Bergström. The diversifying models now include systematic macro using non-price data, as well as adaptive, machine learning approaches, and some very short term strategy signals.

### **Shorter Term Models and Portfolio Protection**

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“We are at the faster end of the medium term trend following space. Therefore, we have invested a lot in execution research, which is often overlooked, but is very important especially for faster systems,” says Källström. Lynx executes everything electronically, using straight through processing (STP).

Shorter term models have been important to meet Lynx’s return optimization targets.

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Lynx’s return optimization targets have been consistent over the past 20 years. “Our targets for providing portfolio protection, including correlation to the VIX volatility index, and behaviour in different market climates, have been kept fairly constant,” says Bergström. Considerable analytical resources are devoted to the optimization process: “it is a complex and non-trivial optimization exercise to optimize a non-convex objective function including metrics of risk adjusted returns, market neutrality, reactivity to trends and various other diversifying characteristics, while allocating to 45 models,” explains Källström.

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The volatility target of 18% has also remained the same, though this is an average over a cycle and not itself a constant. The 95% one day value at risk has ranged between 1% and 3%, because Lynx is opportunistic in responding to bottom up signals.

“Our objective is derived from the fact that our clients use the Lynx Programme as a diversifier in

their overall portfolios,” says Källström. “Many of our clients group Lynx with other risk mitigation strategies such as long volatility and tail risk protection. Investors are looking for diversification, especially in a climate of rising interest rates and inflation when bonds may not provide good diversification to equities”.

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Some 80% of Lynx assets of USD 5.9 billion come from institutions such as pension funds and insurers, while the proportion of assets coming from funds of funds and high net worth individuals has gone down over the years. Lynx opened a New York office in 2014 and nearly half of its assets are investors from North America.

### **Machine Learning Carve Out**

The return objective will however be different for Lynx’s pure play machine learning strategy, Constellation, which has been rolled out as a standalone offering. “Constellation targets high risk adjusted returns, with a low correlation to trend following and zero correlation to traditional markets, whereas Lynx is actually aiming at a conditional negative correlation to equities during longer drawdown periods,” says Källström.

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“We are offering Constellation as an independent strategy because we have excess capacity and there is investor demand,” says Källström. Lynx has spent years developing the strategy: “we have a long history of using adaptive machine learning models with good results. It is a very complicated task to train and regularize algorithms to make them robust. We use supervised algorithms and pre-process the data quite heavily before using them,” says Källström.

### **Investment Universe and ESG**

The investment universe of liquid equity, fixed income, currency and commodity futures markets traded by Lynx has not changed much. Commodities were added in 2005 after the Swedish FSA permitted the asset class in domestic funds. Though the total number of markets traded has increased from 60 to 100, most of the newer markets added have been sized smaller so the same 60 markets continue to make up the bulk of the risk budget. In any case, the number of markets does not necessarily measure portfolio diversification: “rather than thinking about trading 100 independent markets it is important to understand common forces and factors,” points out Bergström.

Some CTAs argue that they need to diversify into non-exchange traded over-the-counter (OTC) or “exotic” markets to maintain portfolio diversification amid rising correlations since 2009. Lynx has not added these markets (which are traded by Brummer & Partners affiliate Florin Court) because Bergström views this approach as, “a different strategy with special operational requirements, which will not necessarily provide the portfolio protection qualities that are sought by Lynx investors”.

ESG may however lead to some changes in markets traded. One of Lynx’s programs, Lynx Dynamic,

has already excluded energy markets after discussions with key clients. Other Lynx programs continue to trade energy.

Elsewhere, an ESG version of Lynx awaits better liquidity in certain contracts and new product launches. CME Group and Eurex both offer ESG equity index futures. “We are aware of such futures, but they are not currently liquid enough,” says Källström. Lynx would like to see more ESG friendly instruments on the commodity side, which might specify the provenance of deliverables, so that an “ESG soybean future” could for instance exclude beans grown in areas previously covered by Brazilian rainforests, or other contracts could perhaps rule out metals or minerals extracted in controversial “conflict” zones or disputed territories.

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This illustrates how the engagement angle of ESG is different for macro managers and CTAs trading futures rather than investing in individual companies. “We invest in derivatives so we do not have voting rights for companies as shareholders would. But we are engaging with exchanges to encourage them to launch more ESG futures,” says Källström.

## **Future Research and Development**

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Thus far, the machine learning strategy, Lynx Constellation and the long-only Lynx Active Balanced fund are the two new investment programmes (though strategy customization can be an option for larger institutional investors). “Over the next ten years we might offer more carve outs, and develop other quant strategies,” says Bergström.

But right now, the research department at Lynx is prioritising four areas to further evolve the existing programmes. “First, we want to improve on our bread and butter strategy of trend following. Second, we want to expand our expertise in machine learning. Our third research priority is using shorter-term intraday data, with or without machine learning. Our fourth research focus is using non-price data, again with or without machine learning,” says Källström.

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*This article featured in HedgeNordic’s 2021 “Nordic Hedge Fund Industry Report.”*