



## MODULE 3 UNIT 1

### Video 2 Transcript

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NIR VULKAN: Hans-Jörg von Mettenheim is a professor of finance and the director of quantitative finance and risk management at the IPAG Business School in Paris. He's also the founder and director at Acanto SAS, a systematic trading firm. In this video, Hans will share his experiences and knowledge about the process of automation and building a systematic fund.

HANS-JÖRG VON METTENHEIM: Hi, I'm Hans von Mettenheim. I'm a professor of finance at IPAG Business School and the founder of Acanto, which is a quantitative trading firm. I've been dealing with algorithmic trading in some way or another for the past 20 years, and I hope that I can share a bit of my enthusiasm on this topic with you in the next few minutes.

### How did you find patterns that you could trade?

HANS-JÖRG VON METTENHEIM: Actually, finding patterns is not very difficult. There are lots of good ideas that work. A typical way of starting your research process is to really look at academic papers. So even if it sounds funny or silly, just use Google Scholar or use SSRN. Google "trading strategy pattern recognition" and you will find more than you can possibly use, and then of course everything boils down to refining your search to finding something that really works, not just on paper, but also in the real world. But, you know, the basic research really starts on the net, perhaps with some idea you have you can already put in, you should put in, of course, your own thoughts into what you want to research, but there's really no rocket science in this very basic research.

### In your view, are there many or few opportunities available?

HANS-JÖRG VON METTENHEIM: There are definitely a lot of available opportunities. So, the difficulty is not so much in finding the opportunities that present themselves on the market, but the real difficulty is making them operational so that you are able to trade them, to trade them consistently. And in this case, it's not really the algorithm that will make or break your success, but a host of other little factors that probably at first you don't remember, or you don't even notice if you're just looking at an academic paper.

### What would your suggestions be regarding good places to look for these opportunities?

HANS-JÖRG VON METTENHEIM: Yes, if you want to refine your search on strategies, you may definitely look for specific methods, because if you just google "trading strategy", you might find too much. So, for example, you may think okay, let's say, the Asian equity markets are of interest and you would like to model them – I'm just giving you an example – you would like to model them with newer networks.

So you could look up this, or perhaps you believe in trend-following, because it's a very easy model and it's documented to work in a lot of situation. So then you might just google something like "trading strategy", "trend-following", and let's say "European equity markets", for example. So, this way, you could refine your search.

## Do you suggest taking existing ideas and applying them to new markets?

HANS-JÖRG VON METTENHEIM: For this, obviously I have to go into some details. So when you find an academic paper and the idea looks interesting, then typically you wouldn't just take this idea and implement it exactly like it is, because very likely, once it is published, the edge, or the supposed edge, disappears. So, you need to be a bit more refined in this process, obviously.

So the academic paper can just be a start to gather some ideas. And what you will do is, you can take an existing methodology and apply it to a new market. For example, what has been working in Europe might now work in Asia, for example, or what has been working on equities might now work on futures.

Or you can take the idea but change some parameters, some meta parameters of the model. By that I mean the following: for example, you find a strategy that has been documented to work nicely on daily data. So nowadays, everybody has access, ample access, to daily data. So perhaps this edge is gone. But what about higher-frequency data? You don't necessarily need tick data, but perhaps looking at hourly data or minute data might give you a new edge, a new idea.

Or in this same area, you want a daily system, and most people only look at closing prices. So, closing prices, the edge in closing prices might be gone. But what about looking at the prices at 10am or 2pm? Some other specific time during the day, or trading without being a high-frequency trader, still trading several times during the day.

So these are ideas you could definitely explore. Also, if somebody tells you okay, I'm using – very basically, just an example – I'm using a moving average with a, for the last 200 periods. Then of course, you might experiment with other parameters. Obviously, always be a bit careful and not overfitting your system. Have a robust implementation of your model to be sure that you are not overfitting, but that is basically the way to go to explore variations of what you already find.

NIR VULKAN: Did you understand all the concepts in this video? If you would like to review any of the questions, click on the corresponding button.