PODCAST TRANSCRIPT

TALKING RESEARCH – Q1 2023 UPDATE

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Katie:
Hello. Welcome to Talking Research, a podcast from Walter Scott where you will hear first-hand from members of our Research team about what they've been up to, where they've been travelling, and of course, at the heart of all that, companies.

My name is Katie Boyce. I'm an investment writer at the firm and, today, I'm delighted to be joined by investment managers Tom Miedema and Matthew Gerlach. Over the course of this episode, Tom will give us an insight into the team's work over the last few months, then Matthew will share his thoughts from a recent trip he and Tom took to the US around the semiconductor industry.

Tom, welcome.

Tom:
Hi Katie.

Katie:
Thanks very much for joining me today in your capacity as a recent chair of the Research team. Before we get into talking about the quarter, perhaps you could just briefly explain to our listeners about that role.

Tom:
Of course. So this is an initiative that we started a few years ago, the idea being to rotate the chairing of research meetings, the setting of the research agenda, among senior members of the Research team. The concept here being that people will get more experience doing that and bring some fresh ideas as we rotate from person to person; and share some of the effort. There's work involved, obviously, in doing these things.

Katie:
It's a true team approach. So, after a turbulent 2022, I wonder how you would describe this year so far? Given recent events within the banking industry, it would be particularly great to hear your thoughts.

Tom:
I guess, reflecting on the start of the year, you look back and it was all relatively benign. Now, clearly, things have become a lot more turbulent, a lot more interesting.

Firstly, I'd say, Walter Scott has very limited direct exposure to banks.

But, of course, we're spending a lot of time following this situation closely. There's clearly the potential to impact the broader macro picture, and there's clearly also the potential for second- or third-order effects to come through. It seems almost inevitable at this point.

Katie:
We should obviously caveat your comments around banks to say that we're recording this a few days before it'll reach our audience.

Turning to the team's research. It's been a really busy quarter, with many of you out on the road meeting with companies all over the world. We're going to hear more about your trip to the US with Matthew, but where have some of the others been travelling to?

Tom:
It's been really busy and we can now truly say that we are back to normal in terms of travel. I'm also really pleased to say that we're hosting lots of corporates back in the office in Charlotte Square. I had a couple of meetings here this morning.

If we look back at the first quarter, the team went on ten different trips, some longer ones and some shorter trips to Europe. Maybe one to highlight would be a big trip to India. Alan Lander and Connor visited India for two weeks, covering five cities, meeting 30 different companies. That was our first time back in India post Covid.

We also had Max Skorniakov in Barcelona for the Mobile World Congress. I was in Germany for some company visits and attended an mRNA conference as part of a project on synthetic biology. Then there was this trip to the US that we're going to talk about later that Matthew and I went on, plus a number of other trips.

We've got two colleagues out on the road right now in the US on another two-week trip, and lots more trips in the agenda for the rest of the year.

Katie:
You mentioned India. It's not a country we travel to very often so perhaps you could tell us a bit more about that trip?

Tom:
I think they had a really good trip, with lots of good company meetings and lots of interesting takeaways. Flagging two things that they were saying back on Monday when they were reporting on the trip: one was about the opportunity around import replacement. India's long had the ambition to be a big exporter but hasn't really fulfilled that so far. With all the geopolitical tensions that we're seeing, and we'll talk about some of that later, India's potentially going to be a big beneficiary here. A lot of people are looking to find a 'China Plus One' manufacturing location and India is an obvious place to look to do that. So there are lots of corporates looking to take advantage there, preparing the kind of groundwork for capacity expansion and getting up the value and quality curve. That's a really interesting thematic for India.

Secondly, and this feeds into that first point as well, is infrastructure. Many times that we've gone to India in the past, the lack of, or poor quality of, infrastructure is just a massive issue holding the country back. The reports that we got from this trip were that there's some significant improvement in road infrastructure and rail infrastructure, and in logistics infrastructure generally. This is obviously very beneficial if you want to become an export powerhouse, and it's really good for companies operating in India as well. There were lots of other takeaways, but those are probably two things I would highlight as top of mind when the guys came back.

Katie:
And you talked about a project you were working on related to that mRNA conference. There's a synthetic biology paper you've written that's due to be published in the next few weeks, and I believe you'll be talking at our conference in May on the subject – so plenty more to come.

Tom:
Absolutely. Thanks for the plug, Katie.

Katie:
Beyond your stint as a research chair, you found time to travel not only to Germany but also the US. And it's great to have Matthew here with us to talk about that trip. Matthew, thank you for joining us today.

Matthew:
Hi, Katie.

Katie:
The semiconductor industry is one that is intrinsic to all our lives and the global economy, whether it be in smartphones, cars, computers, servers or medical, military and industrial equipment. It's long been a fertile hunting ground for Walter Scott and, recently, the industry has definitely been the subject of a few discussions within the team. It would be great to hear from you on the purpose of the trip.

Matthew:
Absolutely. Firstly, as you mentioned with Tom, the Research team has the privilege of travelling to meet with companies, consolidate investment ideas and to explore a number of different themes. This trip was absolutely one of those. Tom and I spent a couple of weeks in the US meeting with several US-based semiconductor companies and, really, the goal was to get answers to three different questions.

Firstly, confirming the long-term outlook for the industry and the growth that we expect to come. Secondly, assessing the current capabilities of the local supply chain in the United States as well as the time to build what we think is an adequate and resilient supply chain capacity in the country. And then, lastly, to what extent are

companies acting to diversify exposure away from Taiwan and China, which has become a geopolitical flashpoint over the last few years.

To this end, we started off in San Francisco where we spent some time in the Bay Area. From there, we went to Austin, Dallas, and then ended up in Washington, where we met with people around government to gather thoughts on the US push for manufacturing capacity.

Katie:
And I get why Silicon Valley, it's the home to some of the tech titans, but why Austin and Dallas?

Matthew:
Yes. So there are some very good companies there as well and with some very good insights. In Austin we met with GlobalFoundries, which is a specialty foundry focused on trailing-edge semiconductor capacity. We also met Dell, which is not a semiconductor company per se but, with nearly $100 billion in revenues, is a very important customer to the industry. And so their views on supply-chain dynamics and product sourcing are very important.

In Dallas, we met with Texas Instruments (TI). There, we had really a fascinating visit where we were toured around their 300-millimetre semiconductor facilities north of Dallas. And that's a key site for the capacity additions that they're putting into the ground going forward.

Katie:
What would you say your key takeaways on the industry's growth outlook are?

Matthew:
To be honest, I think we were pleasantly surprised in that there were no major surprises. We've got high conviction in the long-term growth outlook so it was great to have that confirmed. Really, the industry is building towards this picture of $1 trillion in industry-wide sales by 2030. That's pretty much a near doubling of industry sales by then so the growth outlook is very strong. I think what we will be seeing over the next few years is really the industry preparing for that, from the perspective of building out wider supply-chain resilience, wider geographic resilience so that they can support that in a stable way for customers.

Katie:
And it's a notoriously cyclical industry, isn't it? So where are we at the moment within that cycle?

Matthew:
Yes, most parts of the industry are currently in a down cycle. We're seeing a bit of a consumer recession across a number of different companies. And of course, the semiconductor industry selling into that is exposed. Areas like PCs, smartphones are clearly in a down cycle, areas like industrial are starting to roll over a bit. Automotive is still fairly resilient, but that might come soon in time. The general consensus is that we're likely to return to growth by the end of the year. Now, of course, this cycle is not the same for everyone and some companies are still doing very well despite the challenging environment.

Some of the highlight meetings from our trip were Cadence and Synopsys, who share a global duopoly in software tools to design semiconductors. They're selling into the R&D budgets of their customers, which continues to grow, but also into a number of new customers who are focusing on proprietary silicon design and, for their own hardware examples, there would be the likes of Alphabet and so forth.

Nvidia was another very strong meeting. They're benefiting from demand for their accelerated computing stack, which is powering everything from advanced graphics to the artificial intelligence algorithms behind ChatGPT, which has been all the rage. Other companies doing well despite the down cycle include ASML, which we didn't meet but the demand for their next-generation lithography tools continues to be very strong.

Katie:
You mentioned some broader questions on industry capacity. I think you're referring there to the fact that, for example, the US is now only 12% of global capacity versus 37% a couple of decades ago. I mean, why does this matter in a globalised world?

Matthew:
That goes to the earlier point around building global supply-chain resilience. As you mentioned at the start, I mean, if it's not abundantly clear already, the semiconductor industry is incredibly important from the perspective of manufacturing. Any large piece of manufacturing will nowadays likely include some kind of semiconductor, if something that is being manufactured as value add and has some form of electronics board, that will have semiconductor chips on it as well. From a services perspective, there's hardware such as iPhones, but also the cloud computing and servers behind software tools, and cloud computing at the likes of Microsoft is all powered by semiconductors.

Then, of course, military capabilities, be it cybersecurity or be it advanced equipment, jet fighters and so forth, these all include a lot of chips. Over the 70 or so years that the industry has been commercially viable, starting with the first commercial silicon transistors from the likes of Fairchild, TI and so forth, the power of Moore's Law and the increasing complexity of manufacturing and designing chips has meant that the supply chain has evolved into what is today a fairly fragile and quite single-threaded industry, where a lot of companies have developed very significant specialisations in specific countries because of this engineering challenge.

ASML in the Netherlands and Carl Zeiss in Germany are some good

examples of this, but there are many, many others dotted across different countries. I think it'd be fair to say that the semiconductor industry is a good example of where global cooperation works. And it's clear that no single country can do it all themselves. There needs to be a concerted coordination across multiple countries, but also multiple companies, to make sure that the supply chain can be resilient. But the US-China and China-Taiwan tensions has unfortunately added an additional layer of complexity on top of this.

Katie:
Clearly that geopolitical point is very topical. You mentioned that you guys had been to Washington, DC. Tom, perhaps I could bring you in here and you could tell us a bit more about what you were doing there?

Tom:
Absolutely. We went to spend some time in Washington to understand the kind of counter perspective, you know, what were the politicians and government thinking about this whole situation? So, we met with government relations people from the companies who are operating in Washington. We met some of the representatives from industry associations, again operating in Washington. And then we met with a number of people who are in and about the congressional committees working on topics in this area – so thinking about the Chips Act, thinking about geopolitics, thinking about China. And that was fascinating.

Our conclusions there would be that there are quite different perspectives between the industry and the government. The industry, while they are definitely working towards supply-chain resilience, working towards alternatives, they're also quite resigned or even fatalistic when they're looking at the challenges. This is going to take a very long time to make a dent in the current situation, and so they're resigned to the status quo.

If you speak to people in government, they're far more agitated. They want this to happen quickly. I think the question here is really one about pace of addressing some of the issues in this industry and this will likely sustain that. There will be this gap and we'll find some sort of middle ground in terms of definitely building more capacity in the US and funding that capacity. We've seen that already but I think this will continue and the US is very likely to keep on turning the screws on China, managing its ability to get up the curve on semiconductors in particular, so I think these issues are going to be with us for a very long time to come.

Katie:
That political drive was encompassed in the Chips Act last year, wasn't it? $52 billion to support manufacturers in this space? Intel used to be a behemoth of the industry but, alas, no more. Can it return to its heyday with the benefit of this government support?

Tom:
There are a lot of challenges ahead for Intel. It was one of the most interesting meetings that we had. It's obviously central to all of the geopolitics, all of the Chips Act stuff that we talked about. It's trying to catch up on the manufacturing technology, it's trying to catch up on chip design against the likes of AMD and is trying to reduce costs at the same time. Those are three enormous challenges for Intel. All at the same time as it's losing market share, spending a tremendous amount on capex. So, it's a pretty high risk prospect today. However, the Chips Act will benefit Intel. The government and many others want the company to succeed. And Intel has got an amazing history and amazing pedigree so I would never write it off.

Matthew:
And Katie, you mentioned Intel as a potential big beneficiary of the Chips Act and, undoubtedly, it will be tapping those investment tax credits and those subsidies. One of the key highlight meetings was Texas Instruments and it's likely to be a very big beneficiary of the Chips Act as well, maybe even the best beneficiary.

As a reminder, Texas Instruments is the leading player in analogue semiconductors, its market share is equal to the next two competitors combined. Analogue, whilst more on the trailing edge of design nodes, is very much important to all of the major trends that we're seeing around electrification, autonomous vehicles, medical industrial trends and so forth. The two key markets that they are tapping into are industrial and automotive that today is about 60% of their sales. To give you a sense of the demand for their chips in automotive, for example, the average car today has about 1,200 different SKUs (different types of chips), which is about double the level from only 2010. That's a very attractive growth outlook in the automotive space. In industrial, they target 13 different subsectors, everything from factory automation to medical devices, aerospace and defence. So, again, the content growth outlook is very attractive.

TI has been adding quite meaningful capacity over the last few years. They stepped up their pace of investment this year. This is with the plan of supporting 10% revenue growth from now until the end of the decade. And, of course, because this capacity is primarily in Texas, they really do stand to benefit from the Chips Act. It has already been approved that TI will be receiving 25% tax credits on the capex but they're also putting through their applications for the subsidies for the trailing-edge capacity.

All in, I think TI is building a very strong franchise from the perspective of control of destiny. They designed their own chips, they've got their own manufacturing facilities. That manufacturing is in the US so it's geopolitically dependable and, because of this degree of vertical integration,

they've got structurally the lowest cost profile in the industry.

But, back to the major point of the trip, which was supply-chain resilience. Of course, this trip was focused on semiconductors, but we also can't forget the wider electronics supply chain. A lot of that is still definitely in countries like China. From the trip, we heard companies talk about developing their 'China Plus One' strategies, really thinking twice before deploying the incremental dollar of capex into China, thinking perhaps where else they could be investing. Countries that we heard mentioned include the likes of Vietnam and Malaysia, and other parts of Asia, India, Mexico, but also the US, where it makes sense from a cost perspective. So I think there are plenty of investment opportunities over the next decade to keep the Research team busy.

Katie:
Your supply chain comments tie in nicely with what we heard from Alan and Connor on their India trip. All sounds fascinating and, clearly, there's plenty of work ongoing amongst the team. Tom, Matthew, thank you very much. It's been great to hear from you both.

Tom:
Thanks, Katie.

Matthew:
Thanks, Katie.

Katie:
To our listeners, thank you very much for taking the time today. If you have any questions on what's been discussed, please don't hesitate to get in touch. We look forward to talking to you again soon.

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