DR. WOLFGANG ZIEBART
President and Chief Executive Officer,
Infineon Technologies AG, Munich

Good morning Ladies and Gentlemen,

When we talk about national champions in Europe, I am reminded of Airbus Industries, competing so successfully with Boeing. A question that then comes to mind is whether the case of Airbus could be a precedent for other capital-intensive industries such as semiconductors, for example. We have already seen a major merger in Europe with one Italian and one French semiconductor company merging into STMicroelectronics, which is now the fifth- or sixth-largest semiconductor manufacturer in the world. So the question is whether a merger on an even greater scale is desirable, or necessary. Do we need a European champion in the semiconductor industry?

Two Main Issues

I have two main views on the question of European or national champions. In my opinion, we do not need national or European champions in the semiconductor industry. What we need is a world champion here in Europe. By that, I mean a semiconductor enterprise that is based in Europe and able to compete internationally on worldwide markets.

To achieve that goal--the second issue I would like to address--we need important lead markets here in Europe. Furthermore, we need a favourable environment for the semiconductor industry in Europe, including innovative high-tech clusters, infrastructure, and a competitive tax system.

To give you the full picture, let me first talk about the characteristics of the semiconductor industry. Then I would like to give you some background on our decision-making processes regarding future investments. Finally, I would share some recommendations with you on what can be done for a lasting and successful development of the European semiconductor industry.

Characteristics of the semiconductor industry

First of all, I think that the semiconductor industry is by far the most globalised industry. Here's a good example: A wafer weights 100g and costs about $1,000. If you ship this product around the world ten times, that would only add 1 percent to its costs. In addition, there are no duties on semiconductors, since all members of the WTO have agreed on avoiding duties and tariffs on these products. This means that basically all production sites in the world compete with each other. We have world-wide competition and everybody is competing with each other, but without having any particular advantage. This is in contrast to heavy-goods producers, which might have a local advantage if they were close to their main markets, and so on. In our case, we do not have those kinds of advantages. In my industry, we sometimes even have some of the production steps done on one continent, while other processes such as back-end operations including testing and packaging, are done somewhere else. During a manufacturing process consisting of 400 steps, our products are shipped around the world.

In Europe, the semiconductor industry is the manufacturing branch that requires the most research and development, with more than 15 percent of sales spent on R&D. The semiconductor industry is an enabling industry of strategic importance for Europe. Semiconductors provide the foundation for many other industries in Europe; they are the driving forces for technical progress, for example in the car industry and in industrial electronics. Semiconductor progress is a prerequisite for progress in many other industries, as semiconductors are tied to specific applications. When you think about electronics, which certainly have made a lot of progress, you have to dig a little bit deeper to see that it is not the electronics that made the progress. Rather, it was the semiconductors with new designs, greater capacities, and new efficiencies that made progress, facilitating the introduction of totally different and new devices. Both the semiconductor industry and the application industry are closely linked.

This linkage has two implications. First, many industry branches need a strong semiconductor industry. Every industry that depends on semiconductors needs to have direct access to the semiconductor industry.

Second, the semiconductor industry only thrives if it has close links to applications. I think it is almost impossible to succeed in a business activity if your lead market is somewhere else, for example in Asia, if you are trying to run your business from Europe.

To sum up the characteristics of the semiconductor industry, it is on the one hand very internationalized and globalised, but on the other hand strongly linked to the main drivers and the lead markets for certain applications.

Aspects of future decision making

Now, what determines the decision by a semiconductor manufacturer as to where to invest in the future, be it in terms of products and in terms of production sites? These questions relate to production and to research and development as well, for central research and for design or engineering centers.

Recently we have been blamed for moving production facilities to Asia, and we have even been insulted for not being loyal to our home location. But that is beside the point.

Our decision is mainly driven by three factors. Probably the most important one is the location of the lead markets. This is essential for us when it comes to deciding where to build our application engineering or the center of a certain activity. For instance, when you realize that mobile phone production is moving to Asia, then either you also move the center of your mobile phone activity to Asia, or sooner or later you will be driven out of this market. For instance, it is also impossible to get a foothold in consumer electronics without being in Japan. Japan is the lead market. So either you have the center of your activity in Japan, or it is very unlikely that you will be successful in the market for consumer electronics.

The second most important factor is infrastructure. Where are the best people, the universities, the suppliers and so on? I am convinced that the EU still has a very favourable environment, but other countries and regions are rapidly catching up, especially with regard to education. For instance, we have quite close ties to one of the four universities in Xian, Western China. This university pours out as many electronic engineers as Germany as a whole. So here, I think, even if the current situation in China might still be inferior, China is catching up very fast.

The third factor is costs. We often hear that due to the huge investment to be made in semiconductor production with depreciation of about 50 percent, labour costs do not play an important role in decision making. This is not correct. In Europe, labour costs in the semiconductor industry are roughly between 15 and 30 percent of the total price of products. But if you go to Asia, labour costs amount to something like 5 percent. This gives you a considerable difference in margin. Since we are fighting for 1 to 2 percent in return on sales, having an advantage of 10 or 20 percentage points in labour costs cannot be overlooked by any means. Interestingly, we have a severe problem of labour costs even in this high-tech area, where everybody would think investment and automation dominate the game.

Recommendations for the future of the European semiconductor industry

What should and could be done for a lasting and successful development of the European semiconductor industry? Here are two major recommendations that I think we should put on the agenda.

First, let us create lead markets. For example, we have done very well in GSM, i.e. mobile communication here in Europe. Europe was the first mass market for mobile communication, and actually took the lead in mobile phones, GSM and digital mobile phones. This lead then created a lot of follow-up industries such as mobile hand sets and wireless infrastructure, with some services and service providers expanding later in other areas of the world. For some years, this was a promising development. Unfortunately, we lost ground here. There is currently a tendency for this market to move to Asia, along with the upcoming applications industry. When Europeans go to Korea, for instance, and see what the Koreans can use their mobile phones for, Europeans are often amazed. People in Korea are paying for subway tickets with mobile phones, or reading bar codes with the cameras in their phones. A lot of applications that are totally new for us are already quite common in Korea.

As a semiconductor manufacturer, we have no choice. Either we are where these applications come up first, or we have no chance of staying in this particular market in the future.

So we must create lead markets. By this I mean that we need to be open to new technologies, new applications, and new business models. We need to seize the opportunities when they come up.

I would just like to mention some of these opportunities such as Radio Frequency IDentification (RFID). This will be a very big market in the future, and instead of discussing possible hazards and problems, we should move forward and make it possible for Europe to take over the lead in this technology.

Another opportunity is health cards, which are being introduced in India. Unless we move quickly, we will again miss this opportunity. It is very important for us to consider technological progress as a chance for success, not as a threat. If customers here are not prepared to adapt to innovations fast enough, if we are conservative and hesitant, then we will not have any lead markets in Europe.

Second, we need high-tech clusters, with a combination of companies, universities, and related businesses that complement each other to form an area of competence. We have Silicon Valley in the U.S. as an example, but we had to learn that this is very hard to copy. Even the U.S. has not been able to copy Silicon Valley to another location within the United States.

I think we have done very well in forming a semiconductor cluster in Dresden/Germany, with the strong support of the government, local authorities, and especially the local politicians. Today, we have a major semiconductor industry in Dresden, where supporting industry suppliers and universities and so on are available. This is a very good example – but we need many, many more of them.

Conclusion

To sum up, the past has shown that Europe has a proven track record of bringing forward a number of world-class companies in different industries, in different markets, and of different sizes. When we talk about champions, we shouldn't just focus on Europe, or a single nation, we should focus on the entire world, and on being the home for a world champion in semiconductors. A world champion here in Europe would be a viable, innovative, and competitive semiconductor enterprise with entry to, and large market shares in the most important lead markets in the world. A world champion would combine the competitive and comparative advantages of different sites all over the world.

Such a world champion in Europe needs an encouraging and stimulating framework for doing high-tech business here. We must provide a favourable environment in Europe to create European-based world champions.

Thank you.