

## Quality from Poland – No Joke!

*Thomas L. Lagö, Contributing Editor*

Two hundred and fifty years ago, Casimir Pulawski and Tadeusz Kosciuszko became heroes of the American War of Independence. Several monuments have been dedicated to the memory of these heroes including a bridge in New York City, the Kosciuszko Tower at Stanford University, and the Pulawski monument in Washington D.C. In Illinois, public schools are closed the first Monday in March to celebrate Pulawski day. Today, Poland is re-emerging as an innovator of high-tech products that would make their early war heroes proud that Polish instrumentation is now being used in the USA, the country both men loved and fought for.

Mention the word 'Poland,' and some Americans think immediately of their favorite Polish jokes. Indeed, it seems almost every nation likes to tell stories and jokes about some other country.

When I was teaching control system theory, one particular Polish story was always told to new students. "A group of Polish people had arrived in Stockholm and wanted to see the city from the air. They asked the tourism center at Arlanda – the major airport in Stockholm – how that could be accomplished. The tourism center explained they could rent a small plane and the pilot could fly at low altitudes, giving them a great chance to see Stockholm from the air. A tour guide would join them and explain the views. The Polish tourists thought it was a great proposal, so they rented a plane and took off. After doing several passes outside of Stockholm, the tour guide told them to look to their right side, because they were approaching the famous Town Hall and Royal Castle. They all jumped to the right side of the plane to get the best view. Unfortunately, the small plane could not handle this sudden movement, the pilot lost control and they crashed." What is the moral of this story? No Poles on the right side of the plane! This joke is more fun if you have studied control system theory, but the story fulfilled its purpose. All the students remembered that no poles were allowed on the right side of the plane!

What many people might not know, or care to know, is that Poland is developing a reputation for quality electronics manufacturing as well as several other industrial and consumer products. In the past few years, globally successful electronics manufacturers such as Motorola, Flextronics and Ericsson have moved their electronics manufacturing bases from the USA and Sweden to Poland, for

quality and cost reasons. Flextronics chose to manufacture in Poland because it is a central location in Europe, a special Economic Zone with state-of-the-art production facilities and an international management team on location. The cost of manufacturing is relatively low and the education level among employees is high. The facility is part of a truly global organization, with local support from local suppliers. The facility covers over 40,000 m<sup>2</sup> of manufacturing capacity and has more than 1000 employees. The closely located Technical University has about 500 graduate students per year, professionals in electronics, telecommunication and informatics. The universities in the Gdansk Area have about 1000 graduate students per year, specializing in electronics, telecommunication, robotics and economics, all valuable resources for Flextronics. They are doing contract manufacturing for Ericsson, Nokia, Intel, ABB, Powerbox, Thales and others.

Poland has always had great universities, and most Polish students possess a very good analytical and mathematical understanding. This is a great base for companies interested in developing strong business relationships with these new high-tech companies. The above example manifests this Polish opportunity.

Poland boasts several Nobel Prize winners. Albert A. Michelson became the first American to receive a Nobel Prize in science (1907) for "contributions in interferometry and optics and for precise measurements of the speed of light." He was born in Strzelno, Poland on December 19, 1852. He left Poland with his parents in 1855. In 1878 Michelson began work on his passion in life – the accurate measurement of the speed of light. Using only homemade instruments, he determined the velocity of light to be 299,853 km/s, a value that remained the best available for a generation, until Michelson himself obtained a more accurate measure.

During the time he was employed as a professor of physics at Case School of Applied Science in Cleveland, OH, he teamed up with fellow scientist Edward Morley to perform the famous ether drift experiment. This experiment turned out to be one of the most noteworthy 'failures' in scientific research as it disproved the existence of 'ether' as a conductive medium for electromagnetic waves. Albert Einstein paid public tribute to Professor Michelson in 1931 for his extensive contributions to science: "My honored Dr. Michelson, it was you who led physicists into new paths and through your marvel-

ous experimental work paved the way for the development of the theory of relativity." Michelson also conducted fundamental research leading to the determination of an international standard of measurement – the meter – in terms of a natural constant: the wavelength of cadmium light.


Polish Nobel Laureates in literature are: 1905 – Henryk Sienkiewicz; 1924 – Wladyslaw S. Reymont; 1980 – Czeslaw Milosz; and 1996 – Wislawa Szymborska. Lech Walesa, one of Poland's former presidents, received the Nobel Peace Prize. For his efforts, Walesa was named Man of the Year by *Time*, *The Financial Times*, *The London Observer*, *Die Welt*, *Die Zeit*, *L'Express* and *Le Soir*. Other noteworthy researchers include Fahrenheit and Copernicus. Apart from the above, Poland is probably most known as the homeland for Pope Johannes Paulus II, film Director Roman Polanski, composer and pianists Frederick Chopin and the Chopin Vodka brand. Of course, this is only a partial list!

Poland has recently been approved for entry into the European Community, another important step in the development of the country as an emerging technological and manufacturing nation. The Polish military recently decided to purchase the American-made Lockheed Martin F-16 warplane. As reported by the BBC News, this project will lead to a substantial exchange of technology between Poland and the USA. It is the largest defense contract signed by a former Soviet bloc country since the end of the Cold War, valued at \$3.5 billion USD. The deal reportedly involves a compensatory investment program and loans for Poland worth over \$12 billion USD, while underlining the strong ties that exist between the US and Poland. This was also reinforced in recent months by Warsaw's support for the war in Iraq. The British-Swedish consortium BAE Systems-Saab, which produces the JAS-39 Gripen; and France's Dassault Aviation, which makes the Mirage 2000-5 also took part in the bidding.

Investments confirmed via news magazines included a project by General Motors to upgrade its Polish plant, which GM earlier said would raise annual exports by \$200 million USD to about \$600 million USD, reported Reuters. Polish software firms Computerland and Prokom are also part of the offset deal, but I have no current access to details and actual investment figures.

Sweden and Poland have a long "joint history," and I will touch on that since I

was born in Sweden. Hundreds of years ago, water was the primary mode of transport and thus a “business region” with key countries close to the Baltic Sea emerged. The King of Sweden tried to obtain control of this area, a plan that partly succeeded. Since then, many changes have taken place and Sweden is substantially smaller than it was in 1600-1700, when most countries with key harbors and rivers into the Baltic Sea were Swedish. This history of the Baltic Region as a key business area is now returning and is vital for many countries connected to the Baltic. Many Swedish companies have moved their production operations from Sweden to Poland: furniture, crystal, electronics, etc. In the last ten years, the “new business region” with many countries close to this area, has again become united by the Baltic Sea.

To conclude, I predict that in the future, Poland will be less known for its great jokes and instead, for its emerging technology and manufacturing business. Add that to the current list of other known Polish products like sausage, crystal, Nobel prizes, films, music, electronics and many others. “Made in Poland” will shortly become a quality mark, just as “Made in Japan” is today. In fact for many companies, it is already a mark of high quality! 

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